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Afghan Competitiveness for Job Creation: Agricultural Value Chains

Final Report



September 2015

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Afghan Competitiveness for Job Creation – Agricultural Value Chains

Final Report

September 2015

**Commissioned by the ILO Office for Afghanistan,
with funding from the Japan International Cooperation Agency (JICA)**

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FOREWORD

In Afghanistan, agriculture remains the sector which has the potential to create decent jobs in rural areas and urban peripheries. This sector will also enhance the local economic development space if smallholder farmers and other stakeholders are connected to both available markets and useful information on modern and good agricultural practices.

As part of the broader efforts to help our constituents in Afghanistan to tackle unemployment, underemployment and create decent work, the ILO, with funding from the Japan International Cooperation Agency (JICA), carried out a cross-border study 2013-2014 on the competitiveness of five agricultural value chains (namely grape, wheat, rice, tomato, and potato) in Afghanistan, Pakistan and Iran.

While Afghanistan has comparative advantage in almost all of the studied sectors, due to the adversarial trade environment, lack of the necessary legal and policy framework, limited access to reliable information and good agricultural practices, Afghanistan has experienced eroded competitiveness in almost all of the studied sectors.

The findings of this study come at a very critical juncture. On the one hand, the Government of the Islamic Republic of Afghanistan is taking up every necessary measure to create jobs and employment opportunities in an effort to prevent illegal migration to European countries and tackle youth unemployment which is, in turn, linked up to the on-going insurgency and conflict in the country, but on the other, the Afghan government is focused on a long-term job-rich economic growth through agriculture, extractive industries and infrastructure development aimed at turning Afghanistan into a regional trade and transit hub—connecting regional and global economies.

Therefore, the findings of this study is highly pertinent to both the short-term and long-term policy approaches while guiding the new and complementing the pre-existing initiatives with a purpose to enhance the competitiveness of Afghanistan agricultural value chains to compete at the regional and global markets.

As the ILO is working with its constituents in Afghanistan to develop the 2016-2019 Decent Work Country Programme, the findings of this study will serve both as a baseline and as a guiding document to design the country programme outcomes, especially in the areas of enterprise development, youth employment, inclusion of women in the value chain systems, local economic development and the broader decent work agenda.

I would also like to commend the endless commitment and dedication of the ILO officials, in Afghanistan, the Regional Office for Asia and the Pacific, the Decent Work Technical Team in New Delhi and the HQs, during the life cycle of this critical project. As this study comes to fruition, I would also like to recognize the value added by the ILO former representative for Afghanistan, Mr Hideki Kagohashi, who remained engaged in this study even after he left Afghanistan in November 2015. On behalf of the ILO, I would also like to extend my appreciation to the technical team of JICA for their perseverance and patience as the ILO was finalizing this report from mid-2015 to March-2016.

Manzoor Khaliq
ILO Representative for Afghanistan

FOREWORD

As you are aware, the United Nations General Assembly adopted the resolution “Transforming our world: the 2030 Agenda for Sustainable Development (A/RES/70/1), in September 2015, which contains 17 Sustainable Development Goals (SDGs) for 2030. Out of the 17 goals, particular reference is made to agriculture (*Goal 2. End hunger, achieve food security and improved nutrition and promote sustainable agriculture*) and employment (*Goal 8. Promote inclusive and sustainable economic growth, employment and decent work for all*). The Japan International Cooperation Agency (JICA) is moving forward and making continuous efforts to tackle these challenges with its partners.

The agricultural sector plays a significant role in Afghanistan, as more than 80 per cent of its population are engaged in agriculture. It also illustrates Afghanistan’s great potential for achieving self-reliance, alongside its further need of development cooperation for job creation. JICA has been working with the Government of Afghanistan for more than a decade in agricultural development. Our target is to improve the productivity of rice, wheat and horticultural products for food security through institutional development, and to build the capacity of public officers.

In addition to productivity improvements, JICA is aware of the need for comprehensive studies on the competitiveness of agricultural products, value chain mechanisms and the potential for increased job creation in agriculture and related sectors - including in neighboring countries. Thus, we launched the new study, *Afghan Competitiveness for Job Creation: Agricultural Value Chains*, jointly with the International Labour Organization (ILO).

The report describes the overall competitiveness of selected major agricultural products (grapes, wheat, rice, tomatoes and potatoes) in Afghanistan, the Islamic Republic of Iran and Pakistan, and contains an integrated analysis of value chain trends and prospects. It is based not only on data gathered, analysis and field surveys, but also on a series of dialogues among various government/private players. Finally, the study contains a set of Conclusions and Recommendations on various aspects for the Government of Afghanistan and the partner organizations.

We would like to express our gratitude to the warm support we received from the Ministry of Labour, Social Affairs, Martyrs & Disabled (MoLSAMD), the Ministry of Agriculture, Irrigation and Livestock (MAIL), the Afghanistan Government and other relevant stakeholders in our new challenge to produce this cross-country study.

We would very be pleased if this report were fully utilized for the development of a strategy of agricultural value chains and job creation in Afghanistan, with a view to ensuring a bright future for the country.

Eiichiro CHO
Chief Representative
JICA Afghanistan Office

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ACRONYMS

Afs	Afghani (currency in Afghanistan)
AMA	Afghanistan Microfinance Association
ANSA	Afghanistan National Standards Authority
APTTA	Afghanistan-Pakistan Transit Trade Agreement
ARIA	Agricultural Research Institute of Afghanistan
ARTF	Afghanistan Reconstruction Trust Fund
CAREC	Central Asia Regional Economic Cooperation
CDC	Community Development Committee
CDIS	Capacity Development and Institutional Strengthening of the MAIL
CHAMP	Commercial Horticulture and Agriculture Marketing Programme
CNG	Compressed Natural Gas
CO	Certificate of Origin
CSO	Central Statistical Organization
DABS	Da Afghanistan Brishan Shirkat
DAIL	Department of Agriculture, Irrigation and Livestock
DWCP	Decent Work Country Programme
FoB	Free On Board
FSP	Financial Service Provider
GDP	Gross Domestic Product
GoIRA	Government of the Islamic Republic of Afghanistan
HH	Household
ILO	International Labour Organization
IRR	Iranian Rial
ISE	Improved Seed Enterprise
JICA	Japan International Cooperation Agency
LDO	Light Diesel Oil
MAIL	Ministry of Agriculture, Irrigation and Livestock
MISFA	Microfinance Investment Support Facility for Afghanistan
MoCI	Ministry of Commerce and Industries
MoLSAMD	Ministry of Labour, Social Affairs, Martyrs and Disabled
NGO	Non-Governmental Organization
NHLP	National Horticulture and Livestock Programme
NRVA	National Risk and Vulnerability Assessment
OECD	Organisation for Economic Co-operation and Development
OSH	Occupational Safety and Health
PKR	Pakistan Rupee
RFVEPA	Raisins, Fruits and Vegetables Export Promotion Agency
RIPA	Rice-based Agriculture Development in Afghanistan

TSL	Targeted Subsidy Law
UAE	United Arab Emirates
VC	Value Chain
WAP	Working Age Population
WDI	World Development Indicator

EXECUTIVE SUMMARY

The Strategic Vision of the Government of the Islamic Republic of Afghanistan (GoIRA) for the Transformation Decade espoused in the Realizing Self-Reliance paper highlights the centrality of private sector development and job creation as a meaningful outcome of economic growth for Afghans. However, when the competitiveness of the Afghan agriculture sector appears eroded against its major trading partners, there are doubts as to whether the decelerating Afghan economy can absorb the exploding supply of labour without realignment of its policies around competitiveness and jobs. Present study is expected to become a critical input to the strategic realignment of ongoing and planned interventions in Afghanistan in order to contribute more effectively to sustainable job creation through strategies for competitive agro value chains.

Agriculture which provides 44 per cent of employment plays a vital role in the Afghan economy. This study focuses on the agriculture value chains of grape, wheat, rice, tomato and potato in Afghanistan, but also on those in its major regional trading partners - Pakistan and the Islamic Republic of Iran. It examines whether the Afghanistan can remain competitive in these sectors in the light of adverse trade and currency conditions, and how the relative competitiveness would impact on the employment outcomes.

Besides the review of available statistics and literature, more than 1,300 were interviewed in the three countries ranging from input suppliers, farmers, processors to wholesalers, retailers and importers/exporters along the value chains as well as the providers of support services. The Afghanistan component explored one additional dimension – farm households (HHs) - to explore their financial management, income portfolio, education and labour mobility.

It was observed that drastic depreciation of currencies of the neighbouring countries has made future of Afghanistan's agriculture uncertain. These changes have also negatively affected the price of key production factors – such as energy, fertilizers and labour. The trade data of the three countries clearly shows the magnitude of its impact. In the 2002-12 period, Afghanistan's imports increased four-fold, particularly in the area of products in which it was previously competitive. Its exports remained sluggish, further widening the trade deficits of Afghanistan. Meanwhile, Pakistan's exports doubled, and those of Iran tripled.

The main thrust of the report deals with the competitiveness situation (erosion and gains) in the five sectors under review. The study found that, with the exception of the raisins sector, the selected agricultural sectors in Afghanistan suffered from a loss of competitiveness vis-à-vis those of Pakistan and/or Iran during the 2007-12 period: where Afghanistan's lowest price was caught up by a competitor in rice and tomato sectors, and Afghanistan completely lost price competitiveness in wheat and potato sectors. This would have direct impact on trade given Afghanistan's highly liberal tariff regime.

- **WHEAT – Afghanistan losing its price competitiveness further:**

Wheat is the most widely cultivated crop in Afghanistan, supporting food security and farm income of nearly 47 per cent of the total households (1.8 million farm households). The wheat value chain as a whole is estimated to employ 8.9 million people. However, it provides the lowest income per unit of land among the five crops studied (USD 148 per jerib in 2012).

Afghan wheat was the most expensive among the three countries in 2007 and the price gap widened further by 2012 when Pakistani wheat took over the price leader position from

Iran. The wheat flour sector demonstrated a similar pattern, except that Pakistan remained the price leader throughout the period while Iran followed neck to neck. Both wheat and wheat flour exports from Pakistan to Afghanistan are on the increase, most of its exports come in the form of flour. Afghanistan is also increasing imports from Kazakhstan.

Afghanistan is surrounded by the top global wheat flour exporters such as Turkey, Kazakhstan and Pakistan that grow fast with their lower than global average price. This may provide opportunities to achieve food security through establishing a balanced import portfolio and a reasonable grain reserve rather than promoting costly domestic production.

- **RICE – Afghanistan’s price competitiveness challenged:**

Rice is the sixth most important crop in Afghanistan in terms of production volume. The proportion of households growing rice is limited to 3 per cent of households (approximately 98,000 farm households), but the whole value chain provides jobs to 502,000 individuals. The income per unit of land of rice is the second lowest among the five crops (USD 307 per jerib).

In 2007, Afghan rice was the most price-competitive among the three countries, but it reached parity with Pakistani rice in 2012 - while the price of Iranian rice has been rapidly declining throughout the period under review.

India, Thailand, Viet Nam, Pakistan and USA are the top rice exporters. Pakistan as a low price exporter of rice has been strong in its neighbouring markets. The impact of the parity in price between Afghanistan and Pakistan on the rice imports of Afghanistan is yet to be seen, but it is going to be tougher for Afghanistan to compete against the global exporter without price advantage.

- **TOMATO – Afghanistan’s price competitiveness challenged:**

Tomato is tenth most important crop in Afghanistan in terms of production volume. It is estimated that 214,000 are employed in the tomato value chain including 38,000 farm households growing tomato. Tomato commands the highest income per unit of land (USD 800 per jerib) along with grape.

In 2007, Afghan fresh tomatoes were the most price-competitive among the three countries, but the price reached parity with Iranian tomatoes in 2012. Tomato paste followed the same pattern. As yet, Afghan tomato paste has been unable to compete well in the domestic market in terms of quality. The Iranian exports of tomato and its derived products to Afghanistan shows a growth overall.

Turkey and Iran are among the group of emerging economies that grow faster than the present market leaders of fresh/chilled tomato exports. Turkey and Iran are also one of the major exporters of tomato paste and dominate the regional market. Under the present market situation, room for further import substitution of tomato paste remains small. With limited opportunities to expand value chain linkage to tomato processing, the future of Afghan tomato farmers will be bleak.

- **POTATO – Afghanistan losing price competitiveness further:**

Potato is the fourth largest product in Afghanistan after wheat, maize/sorghum and fodder in terms of production volume. The sector provides employment to an estimated 1 million individuals across the value chain including 195,000 farm households. Potato's income per unit of land is in the middle among the five crops (USD 406 per jerib).

In 2007, Afghan potatoes were second in terms of price competitiveness after Pakistan, despite the fact that they have a different seasonality and crop variations. However, the price for Afghan potatoes kept rising, during the 2007-12 period, while the rapid price decline made Iran a clear price leader by 2012. As a result, Afghanistan's trade gap of potato with Pakistan and Iran continued widening.

There are many countries in the region which are strong in the global export market such as Pakistan, Turkey, China, India and Iran, many of which with high growth rates fueled by their lower price than that of global average. Afghan potato exports grew fast as well, but its export volume was far smaller than other exporters. With the price moving towards higher end among the regional competitors, the future of Afghan potato sector becomes bleak.

- **GRAPE/RAISIN – Afghan grapes' price competitiveness challenged while its raisin never price competitive but competing by quality:**

Grape is the most popular crop grown on garden plots in Afghanistan. The sector maintains an estimated 1.3 million employment across the value chain including 173,000 farm households. Grape commands the highest income per unit of land (USD 806 per jerib) along with tomato.

Afghan grapes' low price were caught up by the Iranian grape while Pakistan kept losing its price competitiveness. Afghan raisins were more expensive than those of Iran and Pakistan, and the price gap widened further. Presently, Iran enjoys the lowest price of both grapes (near parity with Afghanistan) and raisins among the three countries.

In the regional market, China, Turkey, India and Uzbekistan are one of the largest exporters of grapes. Regional exporters are even better positioned in the raisins market where Turkey is the global top exporter, Iran the third, followed by others within to top 10 exporters such as China, India, Afghanistan and Uzbekistan. In the highly competitive regional market, Afghan grapes' growth potential would be limited unless it establish a cold chain. The regional raisins market is even more competitive, but Afghanistan would be better off by focusing on the high end market and avoid a price war with other lower priced neighbours. Several raisins exporters have been successful in penetrating the high end European market and growing well while others exporting to price sensitive markets such as Russia suffered from increasing competition from the low price exporters such as Iran. Pulled by the demand for raisins, Afghan farmers have expanded the production of grapes.

The eroding price competitiveness of the Afghanistan's agricultural value chains under review is also reflected in the declining profits of both farmers and processors, and the job prospects are bleak in general. This has undoubtedly had a negative impact on the income of commercial farm households where the main source of income is agriculture. The impact on semi-commercial farmers and subsistence farmers has probably been less, given that they rely more on non-farm income. In both cases, the declining farmers' profits would have contributed towards accelerating labour migration and fuelling the deteriorating security situation.

The eroding competitiveness of the key agriculture value chains might not have been obvious to policy-makers and the general public until now because: a) Afghan agricultural products often remain price-competitive in the domestic market due to the additional costs added to imported products; b) the harvesting cycle is different across the countries, avoiding direct competition; c) policy-makers were not able to monitor shifting competitiveness and its employment impact properly due to the incomplete statistical system; and d) scarce attention has been paid to the competitiveness-jobs nexus by the international community.

The Afghan agricultural sector in general suffers from a higher cost of production than that of Pakistan, and this gap has been widening - while Iran's agro products have become price-competitive despite the high cost of production factors. Fertilizers and farm labour accounted for the two key cost elements that resulted in the eroded price competitiveness of Afghanistan's products in four out of the five value chains.

The report advocates a number of practical interventions at the value-chain level, ranging from the adoption of the trellis system in the grapes/raisins sector to the improvement of the quality of seeds in the wheat and rice value chains. In some cases, it would be possible to create a good number of jobs such as the case of grapes/raisins value chain when the proper policy mix is followed. However, the strategic option available when price competitiveness is lost is niche strategy, hence the job creation potential will be limited. This leads to the need to address a number of broad policy and strategic issues to deal with the structural constraints of a high-cost landlocked country with an adversarial currency and trade situation. Chapter 7 contains a list of Recommendations pertaining to policy and strategic measures, as well as to value chain development measures under the given circumstances.

Chapter

1

Chapter summary: *There is an urgent need to realign development assistance towards job creation to ensure that the transition and transformations scenario of Afghanistan works. With the huge youth bulge, Afghan labour market is showing strains. Under the adversarial currency and trade situation where the competitiveness of the nation appears eroding, we need to be highly strategic in our approach towards job creation. This study intends to revisit the competitiveness of selected “strategic” value chains and the associated employment vis-à-vis the same sectors in the neighbouring countries; to assess the jobs prospects of these sectors; and to explore ways to maximize decent employment and income opportunities for Afghan labour and their households in the context of the Transition Decade.*

1. BACKGROUND

1.1 Background and rationale

The Strategic Vision of the Government of the Islamic Republic of Afghanistan (GoIRA) for the Transformation Decade, espoused in the paper¹ endorsed by the International Community and presented at the London Conference on Afghanistan held in December 2014, highlights the centrality of private sector development and job creation as a meaningful outcome of economic growth for Afghans. The same emphasis was made at the Tokyo Conference in 2012 and reflected in the Tokyo Declaration², but the prime attention on the issue was clear at London where the side event highlighted the 11 recommendations on private sector development compiled by the Afghan Chamber of Commerce and Industry (ACCI) and Harakat through a broad stakeholder consultations. The central focus on private sector development and job creation was further elaborated in the speeches of the President Ghani at the Senior Officials Meeting of September 2015, and constitutes on-going policy debate between GoIRA and the international community as of early 2016.

There is an urgent need to realign development assistance towards job creation to ensure that the transition and transformations scenario of Afghanistan works because there are serious doubts as to whether the decelerating Afghan economy can absorb the exploding supply of labour.³ Afghanistan has the third largest proportion of population under 15 years in the world, where over 400,000 youth are expected to join the labour force each year,⁴ the equivalent of up to five per cent of the current Afghan labour force of 8.5 million.

Indeed, the labour market outcomes (see Chapter 3, section 3.6) deteriorated between the two comparable surveys of the National Risk and Vulnerability Assessment (NRVA) of 2007-08 and the Afghanistan Living Conditions Survey (ALCS) of 2013-14; the unemployment rate jumped from 13.5

1 « *Realizing Self-Reliance : Commitments to reforms and renewed partnership* », paper presented at the London Conference on Afghanistan, December 2014.

2 *The Tokyo Declaration on Partnership for Self-Reliance in Afghanistan from Transition to Transformation*, Tokyo Conference on Afghanistan (Tokyo, 8 July 2012)..

3 The transition, together with the announced withdrawal of foreign troops by the end of 2014 and the expected reduction of civilian development assistance have raised concerns, documented by the World Bank and the ILO among others, about the expected declines in the economic growth rate and in the number of jobs.

4 Assuming the present labour force participation rate of 55 per cent of the Afghanistan Living Conditions Survey (ALCS) 2013-14.

per cent to 22.6 per cent.⁵ As of 2014, 1.9 million are already unemployed, 1.4 million underemployed and 6.7 million in vulnerable employment (proportion of own-account and contributing family workers in total employment).⁶ Youth and women are suffering most from the under-performing labour market. The youth unemployment rate (15-24 years) was 27 per cent and women 37 per cent. Overwhelming majority of young people (14-19 years) begin their working lives as unpaid family workers in agriculture (78 per cent of young unpaid family workers are in farming) while 73 per cent of women work as unpaid family workers.⁷

If the massive number of new entrants and marginal participants to the labour market cannot find decent jobs or find them increasingly unprotected and exploited, they could easily turn into a threat to political stability and security and ruin the transition and transformation scenario. It would put undue pressure to rural-urban labour migration and further accelerate emigration to international destinations, when circular labour migration appears to be taking over the declining return migration of the formerly displaced population as the new pattern of emigration-immigration (see Chapter 3, section 3.7).

A major concern for job creation in Afghanistan is the recent erosion of competitiveness linked to the longitudinal and drastic depreciation of the currencies of the neighbouring trade partners (see Chapter 3, section 3.3.3). Against this background, domestic industries in Afghanistan in general have been losing out, and the cavitation phenomenon appears to be reaching to agriculture, the very sector that Afghanistan is supposed to have its comparative advantage and upholds 44 per cent of employment (2.9 million). The data concerning agriculture trade with the major regional trading partners, although imperfect, indicate skyrocketing imports, including those products in which Afghanistan is supposed to have a comparative advantage while the agricultural exports stagnate (see Chapter 3, section 3.3.2).

Under the adversarial economic situation such as this, we need to be highly strategic in our approach towards job creation since business as usual would not work when the entire economy appears losing cost competitiveness against its major trade partners. Many of the ongoing economic development efforts will have to be combined with policies to realign human, financial and technological resources in the sectors that can maintain and improve competitiveness for job creation. In other words, we need to consider shifting scarce resources from declining sectors to more promising, job-creating sectors, and coordinate cross-cutting policies accordingly including an active labour market policy to shift workers across sectors. Unfortunately, many of the sectoral policies and strategies having been discussed in Afghanistan in the past were based on assessments that were years old if not by a decade - if indeed any assessments of competitiveness vis-à-vis competing products in the neighbouring countries were made at all. On top of that, Afghanistan lacks the statistical system that can bring critical indicators of competitiveness and jobs to the attention of policymakers in a fast and reliable manner despite the important progress made to date by the Central Statistical Organization (CSO) on

5 NRVA 2007-08 figure was adjusted to be made comparable to ALCS 2013-14 due to the changes in labour market indicators introduced as of ALCS 2011-12. ALCS 2011-12 data are not comparable due to the lack of critical questions. For details, see ALCS 2013-14 report.

6 The labour market information referred in this section is from the Afghanistan Living Conditions Survey (ALCS) 2013-14.

7 Total number of unpaid family workers is 1.8 million, which constitutes 28 per cent of all employment.

a series of statistical surveys and the Customs Department on the introduction of the ASYCUDA system⁸ across the customs offices around the country among others.

Present study is expected to become a critical input to the strategic realignment of ongoing and planned interventions in Afghanistan, in order to contribute more effectively to sustainable job creation. Continuing efforts in promoting infrastructure and trade, when combined with appropriate interventions along the competitive value chains, will contribute towards transforming the nature of investment from import-inducing to import-substituting and export-promoting. The analysis will also allow policymakers to assess the impact of the present Dutch disease-like phenomena and how some of the ailing sectors could be turned around. The cross-border analysis will provide with an opportunity to engage in discussions on regional integration and the coordination of the trade and labour movement in an informed manner.

All these are expected to feed into the ongoing policy dialogue the International Labour Organization (ILO) assists for the Ministry of Labour, Social Affairs, Martyrs & Disabled (MoLSAMD) as well as high-level officials of the GoIRA and the employers' and workers' organizations towards mainstreaming the employment issue into the core development policies and strategies in Afghanistan. Given the focus of the study, major stakeholders within the GoIRA will also include sectoral ministries such as the Ministry of Agriculture, Irrigation and Livestock (MAIL) and the Ministry of Commerce and Industries (MoCI) as well as the overarching policy bodies being organized into the six high level development councils under the leadership of the Office of the President.⁹ Bilateral and multilateral agencies assisting agriculture value chains may find this study useful in order to realign and fine-tune their assistance from a job creation perspective. The regional nature of the study requiring cross-country coordination and collaboration will also contribute to the decent work policy dialogue in the neighbouring countries included in its purview.

This study deals with a number of agricultural value chains in the context of the ongoing collaboration of the Japan International Cooperation Agency (JICA) with the MAIL, e.g., the Project for the Rice-based Agriculture Development in Afghanistan (RIPA); and the Project for Capacity Development and Institutional Strengthening of the MAIL (CDIS). While it will contribute to the stakeholders referred to in the previous paragraph, it will also help JICA and MAIL to evaluate the degree of plausible impact of their interventions in the selected agriculture value chains in terms of jobs and household income, to address pressure points in these value chains from a cross-border perspective, and to explore opportunities to coordinate with other programmes involved with competitive value chains to ensure synergies of the best mix of interventions. These objectives are in line with the broader employment agenda of the ILO in Afghanistan, as reflected in the Decent Work Country Programme (DWCP) for Afghanistan.

8 The Automated System for Customs Data is a [computerized](#) system designed by the [United Nations Conference on Trade and Development](#) (UNCTAD) to administer a country's customs.

9 The concept for Development Councils was approved by the Cabinet on 2nd September 2015. The six development councils are as follows: 1) Finance and Economic Management Council (deals with the Private Sector Development Program); 2) Land and Water Council (deals with the Comprehensive Agriculture Development Program and the Rural Development Program); 3) Human Development Council (deals with the Human Capital Development Program); 4) Connectivity and Regional Cooperation Development Council; 5) Construction and Infrastructure Development Council; and 6) Governance and Justice Council.

1.2 Objective and scope

The main objective of the overall study is to revisit the competitiveness of selected “strategic” value chains and the associated employment, vis-à-vis the same sectors in the neighbouring countries; to assess the jobs prospects of these sectors; and to explore ways to maximize decent employment and income opportunities for Afghan labour and their households in the context of the Transition Decade. The key question is whether these sectors can remain competitive in the light of the adverse trade and currency circumstances, and to determine the pressure points in each value chain when cross-border transaction is taken into account. Once the competitiveness (or lack of it) is determined, its impact on employment and income will be examined by extrapolating the number of jobs involved along the studied value chain at the national level.

In the present study, the sectoral focus will be on the value chains that involve agricultural produces and agro-processing. Out of a preliminary list of possible target sectors of importance in the agriculture sector of Afghanistan, the study picked grape, wheat, rice, tomato and potato value chains. It covers not only these crops but also their inputs and processed products along the respective value chains. The study selected three focal provinces in each country where these five crops are mainly produced.¹⁰ While the Afghanistan agriculture value chains penetrate into other Central Asian countries, the countries included in the field data collection are limited to Pakistan and Iran, given the weight of the trade volume, the degree of cross-border transaction within the same value chains, and the existence of competing products.

In view of the fact that competitiveness, employment and income are assessed throughout the value chains, the study included visits to the places of raw material production and processing and to markets (including both wholesalers and retailers as well as importers and exporters). This applies to the sectors within Afghanistan and the same sectors of the regional trade partners for those value chains integrated across the borders. The study paid special attention to the wage employment opportunities for women given the low level of labour market participation of Afghan women as well as their predominance in unpaid family workers.

¹⁰The focal provinces of Afghanistan were selected from the list of target provinces of the RIPA and the CDIS: Kabul in the Central Region; Bamyan in the Central Highlands Region; Nangarhar, Kunar and Laghman in the Eastern Region; Takhar and Baghlan in the North-Eastern Region; Balkh in the North Region; and Herat in the North-Western Region.

Chapter

2

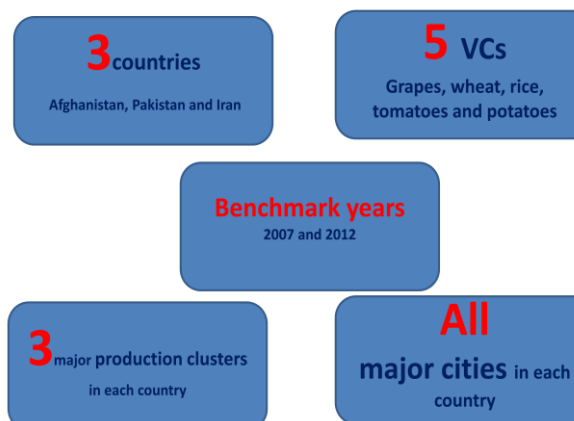
Chapter summary: This study adopted the value chain approach on the basis of trade analysis to identify the competitive sectors among the five VCs in each country. Besides the review of available statistics and literature, more than 1,300 were interviewed in the three countries. Three focal provinces were explored in each country as major production clusters of each value chain crop; but major cities were also covered alongside to complete coverage of the whole value chain. The comparison of the wholesale prices across the three countries between 2007 and 2012 provides an overview of the way in which the relative price competitiveness changed over these years. The study's Afghanistan component explored one additional dimension – farm households (HHs) in general, to explore, inter alia, their financial management, income portfolio, education and mobility.

2. STUDY METHODOLOGY

In order to identify and analyse competitiveness, the overall research methodology adopted a value chain approach to examine the whole set of activities along the value chain of each of the selected agricultural crops, on the basis of trade analysis and extensive desk research. In the case of value chain assessment, the research team followed the ILO's proven methodology of value chain analysis and development, which was supplemented by the expertise of international consultants and the knowledge of local consultants. The trade analysis was

undertaken on the basis of data from two different sources - online databases and the Custom Departments under the Ministries of Finance in each country with automated data (the Automated System for Customs Data – ASYCUDA - in Afghanistan and Iran; and the Pakistan Customs Computerized System - PACCS - in Pakistan). The Afghanistan component of the study developed an additional dimension - agricultural household finance, which focused on identifying the farm households' overall financial management, access to finance, income portfolio, education and mobility.

Scope of the study: A snapshot



2.1 Literature, statistics review and key informants' interviews

A wide range of secondary literature was compiled and reviewed on the basis of agriculture, trade, price, selected value chains, support services, policies, current and relevant development programmes, among others, in order to identify the:

- varieties/types of value chain products cultivated in Afghanistan, Pakistan and Iran;
- regional trade partners and traded commodities;
- production clusters and the seasonality of selected subsectors; and
- the demand-supply situation of selected subsectors.

The statistics review part of the study was conducted alongside the field investigation. This process, however, was interrupted several times as accessing trade data from the primary sources (the National Customs Departments in each country) encountered bureaucratic obstacles. After several efforts, it was only possible to extract part of the trade data in a time series. In Afghanistan, ASYCUDA has yet to be introduced in a number of custom points of entry, and the ones currently using it started the system in different years - while others are still using paper-based records. In Pakistan, PACCS data could only be retrieved for three to four years and by custom points; while in Iran, trade data could only be collected for the period 2002-12, but at aggregate level and not by customs points. To compensate for this lack of trade data from the National Customs Departments, online databases were reviewed alongside and examined whenever it was felt necessary.

Interviews were undertaken in each country with key Informants from various public and private sector organizations, and from NGO/development projects/programmes.

2.2 Questionnaires and sampling plan

Three sets of questionnaires were developed and used for value chain assessment during the field investigation. They were intended for: farmers; other value chain actors; and support service providers. All these questionnaires were field tested and subsequently finalized. To capture the dynamics of different types of farm households, farmers were broken down into three categories: subsistence farmers (selling less than 20 per cent of the total harvests of a specific value chain crop); semi-commercial farmers (selling 20 to 60 per cent); and commercial farmers (selling more than 60 per cent).

The primary field investigation for value chain assessment was exploratory in nature and not a statistical survey as such. As a value chain assessment is an empirical case-based study, a snowball sampling approach¹¹ was adopted to identify backward- and forward-linked value chain actors and to subsequently interview them to complete the whole chain. This process continued to identify the complete nature of the value chain actors, their inter-relationships and the various channels within the value chain. The objective has always been to identify indicative cases at different tiers of each value chain. As far as the farmers' interviews were concerned, at least 30 farmers of each type of value chain crop were interviewed in their respective countries to conduct a few quantitative analyses at aggregate level.

As mentioned earlier in the text, the Afghanistan component of the study explored an additional dimension - farm households in broad terms, which extend beyond the value chain perspective (in the value chain, a farmer is one type of actor in the whole chain - while there are other types of actors). In order to determine farm household dynamics, the field investigation followed an "indicative" rather than a "representative" approach. Interviews of a small portion of the same farmers interviewed for the value chain analysis were also conducted in this regard. In the case of the value chain analysis, the collection of information focused on the specific value chain crop; in this broader approach, the

11 Snowball sampling (or chain sampling, chain-referral sampling, referral sampling) is a non-probability sampling technique where existing study subjects recruit future subjects from among their acquaintances. Thus the sample group appears to grow like a rolling snowball. As the sample builds up, enough data is gathered to be useful for research.

analysis centred on the overall farm household, taking into account different aspects such as farming practices, overall income portfolio (other sources of income in addition to farming), financial management practices, access to finance, and family members' education and mobility.

It is worthwhile mentioning that although one farmer might show subsistence characteristics for a particular value chain crop, he or she might demonstrate a different category in the overall farm household analysis (by selling almost all of his or her harvests of another product to the market and thereby falling under the commercial category). Several sets of questionnaires were developed and used for various types of actors. These included semi-structured questionnaires for farm households and Community Development Committees (CDCs); unstructured questionnaires for organizations such as the Microfinance Investment Support Facility for Afghanistan (MISFA) and the Afghanistan Microfinance Association (AMA); and structured questionnaires for financial service providers to identify farm HHs' dynamics.

2.3 Field investigation

The major production clusters for each of the value chains in each country were identified and explored for the field investigation, which took place in two phases.

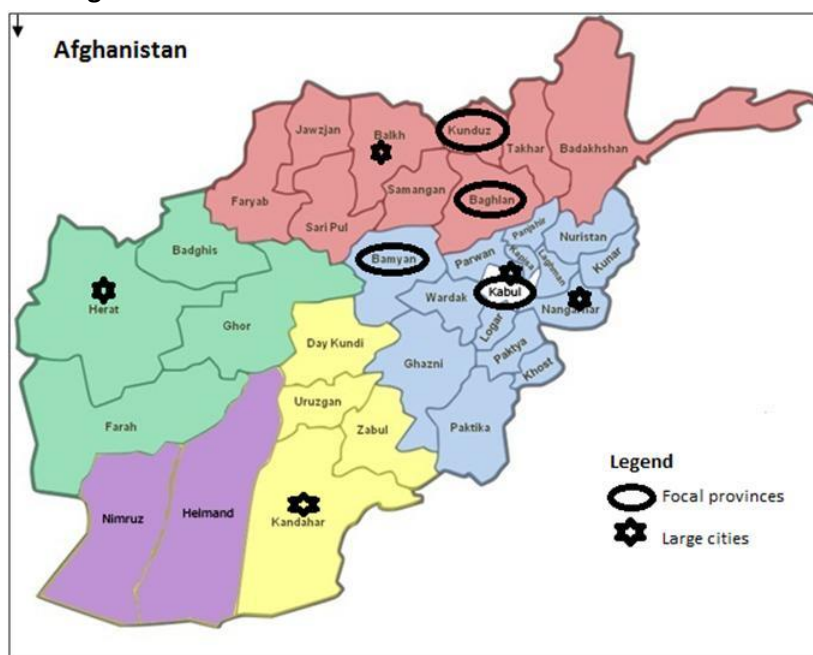
In the first phase, Kabul (Estalif, Dehsabz and Charasyab districts) and Baghlan (Pul-e-Khumri, Baghlan-e-Jadid and Baghlan-e-Markazi districts) were selected as the focal provinces to investigate the farm-level issues, as these two provinces account for a significant production base for grapes, wheat, rice and tomatoes. Two regional teams focused on two regions - Kabul in the Central Region and Baghlan and Kunduz in the Northern Region. However, in order to have a full picture of the value chain situation and the sector dynamics, the field research team visited major cities (large wholesale points, with the presence of large private firms), as well as Afghanistan's border cities with Pakistan and Iran. A survey of Kabul, Mazar, Jalalabad, Herat and Kandahar cities was therefore undertaken, and interviews were conducted with forward and backward value chain actors of farmers and support service providers.

In the second phase, with respect to the potato value chain, three districts - namely Bamyán Centre, Yakawlang and Waras in Bamyán province in Afghanistan - were selected as the major potato production clusters. A team explored those districts.

Altogether, 454 interviews were carried out in Afghanistan (160 farmers, 232 other actors but farmers, 62 support service providers) during the study period. As regards the farm households' component, 65 farmers out of 160 farmers were interviewed again – but from the overall household perspective and not on the basis of the value chain crop. Table 2.1 shows the various districts in the different provinces visited by the Afghan study team.

Table 2.1. Provinces, districts and cities visited by the Afghan team during the field investigation

VCs	Entry points (markets) and/or focal province name	Referred production areas (districts visited for production clusters)
Wheat	Jalalabad, Nangarhar	Behsud district
	Herat	Herat city
	Balkh	Mazar city
	Bamyan	Bamyan centre, Yakawlang, Waras
	Kunduz	Chardara, Kunduz city
Rice	Kunduz	Khanabad, Imam Sahib, Kunduz city
	Baghlan	Baghlan-e-Jadidi, Pul-e-Khumri, Baghlan-e-Markazi
	Nangarhar	Behsud district
Grapes	Kabul	Estalif, Qarabagh, Mirbachakot, Dehsabz, Shakardara, Kabul city
	Samangan	Feroznaqshi
	Kandahar	Panjwayee
Potato	Kabul	Dehsabz, Estalif
	Bamyan	Bamyan centre, Yakawlang, Waras
	Balkh	Bamyan
Tomato	Baghlan	Pulikhumri district and city
	Balkh	Daidadi, Mazar city
	Kabul	Estalif, Dehsabz, Charasyab district and Kabul city
	Nangarhar	Behsud district
	Herat	Herat city

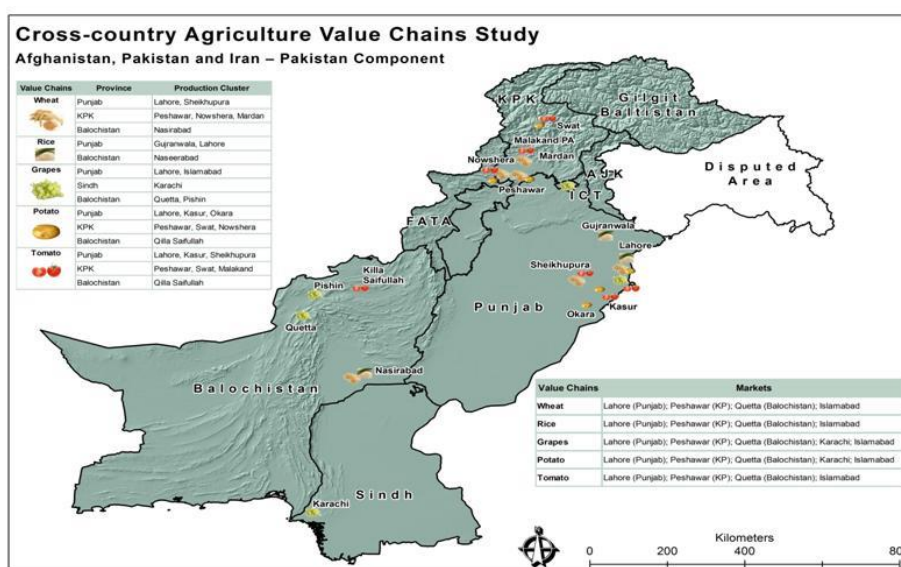
Figure 2.1: Afghanistan map showing the focal provinces and large cities visited during the field investigation

The primary field investigation started in Pakistan in Phase 2, following the same approach as in Afghanistan. Table 2.2 shows the focal provinces and districts - as well as the large cities - visited by the team. Nearly 500 interviews of different actors - including farmers - were conducted for the different value chains.

Table 2.2. Focal provinces, districts and cities visited by the Pakistani team during the field investigation

VCS	Entry points (markets) and/or focal province name	Referred production areas (districts visited for production clusters)
Wheat	Lahore, Sheikhpura	Muridkey, Shiekhupura (Punjab)
	Peshawar (KP)	Mardan, Nowshera (KP) Shiekhupura (Punjab)
	Nasirabad (Balochistan)	Nasirabad, (Balochistan), Rahimyar Khan, (Punjab)
Rice	Gujranwala (Punjab)	Gujranwala, Lahore
	Peshawar (KP)	Swat (KP), Quidabad & Gujranwala (Punjab)
	Naseerabad, Quetta, (Balochistan)	Naseerabad, (Balochistan) Gujranwala & Kamonki, (Punjab)
Grapes	Lahore (Punjab)	Quetta, Islamabad, Afghanistan
	Peshawar (KP)	Peshawar
	Quetta, Pishin (Balochistan)	Pishin, Quetta, Karachi (grapes sourced from Afghanistan)
Potato	Lahore (Punjab)	Qasoor, Okara, Deepalpur
	Peshawar (KP)	Swat, Nowshera (KP), Okara (Punjab)
	Quetta (Balochistan)	Qilla Saifullah (Balochistan), Okara (Punjab)
Tomato	Lahore (Punjab)	Kasur & Shiekhupura, India (through Lahore market)
	Peshawar (KP)	Swat, Malakand (KP), Lahore Market (Punjab)
	Quetta (Balochistan)	Qilla Saifullah (Balochistan),

Figure 2.2. Pakistan map showing the focal provinces and large cities visited during the field investigation



The field investigation in Iran also started in Phase 2. Table 2.3 shows the various provinces and respective districts and cities visited by the Iranian team during the field investigation. Nearly 400 interviews of different actors were conducted in all these places.

Table 2.3. Provinces and places visited by the Iranian team during the field investigation period

Provinces	Location	Places
Gilan	North of Iran	Astaneh Ashrafieh, Kiashahr, Hasanroud, Anzali, Rasht
Fars	South of Iran	Shiraz, Marvdasht
Hamedan	West of Iran	Hamedan, Bahar, Yengejeh, Malayer
Khorasane Razavi	North East of Iran	Mashhad, Chenaran
Cities		
Esfahan	Central Iran	Main vegetable and fruit markets and retailers
Tehran	Central Iran	Main vegetable and fruit markets and retailers

Figure 2.3. Map of Iran showing the focal provinces and places visited by the team



Chapter

3

Chapter summary: *The relative changes in the exchange rates have put Afghanistan at a disadvantage compared to Pakistan and Iran. The trade gaps between Afghanistan and Pakistan, as well as between Afghanistan and Iran, have continued to increase – to the detriment of Afghanistan. During the 2003-12 period, there was an increase in the import into Afghanistan of products in which the country was supposed to be competitive. The changes in the exchange rates also affected the price of key production factors (energy, fertilizer and wage rate) negatively for Afghanistan. This may explain the underperforming labour market and the high proportion of migration in search of jobs.*

3. STATISTICAL REVIEW

3.1 Social and economic context

Section summary: *Afghanistan, Pakistan and Iran have cultural, linguistic and religious ties. Other factors such as the low cost of migration, an established transnational social network and porous borders have resulted in significant labour swapping between these countries. While the size of the economies in Iran and Pakistan are very similar, Afghanistan's economy is tiny in comparison. Agriculture's share in GDP is the highest in Pakistan, followed by Afghanistan. On the other hand, labour employed in agriculture accounts for 78.6 per cent in Afghanistan, while only 45.1 per cent in Pakistan and 16.9 per cent in Iran – the latter being a more highly industrialized country compared to the two others. Iran's Industry sector contributes 44.9 per cent to GDP. All three countries have a negative trade balance, the lowest being in Iran followed by Pakistan. The negative trade balance in Afghanistan is significantly high.*

Afghanistan, Iran and Pakistan share a cultural affinity that has resulted in a considerable social and cultural exchange through labour swapping. Afghans have travelled to Iran and Pakistan in search of work on account of the low cost of migration, opportunities to earn an income in the destination economies, the established transnational social networks and diaspora groups, as well as the cultural, linguistic and religious similarities. The porous borders and social networks also allow the migration profile to be circular. However, Afghan labour does not migrate merely because of geographical proximity and the existence of common borders. The Iranian and Pakistani economies (as well as the final destination countries the Afghan labour migrates through these neighbouring countries) offer positive wage differentials and/or more job opportunities for longer periods, thus attracting Afghan workers.

This exchange in human resources is naturally followed by the transfer of remittances, goods and services as people start putting in place transnational networks that not only facilitate the dissemination of social information but also economic models. As the three countries in question share borders, there is a significant volume of trade between them in both the formal and informal sectors. Since a value chain encompasses the range of activities from the inception of a given product until the end users and beyond, the cross-border trade of specific products among these three countries reveals how a product produced in one country finds its market in the other - or even finds other markets through transit.

Since this study focuses on selected agricultural value chains, it is important to have an overview of the role of agriculture in the respective countries under consideration. The share of agriculture in

GDP varies between the three countries, as does their percentage of labour. As may be observed in table 3.1, Afghanistan's share of agriculture in GDP, as well as the share of its labour force in this occupation, are significantly higher compared to those of the other two countries – despite the strong social coherence and economic dependency between them. This report tries to shed some light on the economic dynamics and the dependency or relationship of these three countries, through the selected agricultural value chain lens.

Table 3.1. Economic comparative review – Afghanistan, Pakistan and Iran

	Afghanistan	Pakistan	Iran
GDP	\$19.91 billion (2012 est.)	\$ 554.2 billion (2012 est.)	\$548.9 billion (2012 est.)
GDP per capita	\$1,100 (2012 est.)	\$ 3,100 (2012 est.)	\$13,300 (2012)
GDP composition - by sector of origin	Agriculture: 20% Industry: 25.6% Services: 54.4% (2011 est.) ¹²	Agriculture: 25.3% Industry: 21.6% Services: 53.1% (2013 est.)	Agriculture: 10.6% Industry: 44.9% Services: 44.5% (2013 est.)
Labour force by occupations	Agriculture: 44% Industry: 22% Services: 34% (2014)	Agriculture: 45.1% Industry: 20.7% Services: 34.2% (2010 est.)	Agriculture: 16.9% Industry: 34.4% Services: 48.7% (2012 est.)
Unemployment	22% (2014)	6% (2012 est.)	15.5% (2012 est.)
Below poverty line	39% (2014)	22.3% (FY 05/06 est.)	18.7% (2007 est.)
Exports	\$376 million (2012 est.)	\$ 24.71 billion (2012 est.)	\$ 67.04 billion (2012 est.)
Imports	\$ 6.39 billion (2012 est.)	\$ 40.07 billion (2012 est.)	\$ 70.03 billion (2012 est.)

Source: CIA: *The World Factbook*; ALCS 2013-14 for the labour market and poverty figures of Afghanistan

3.2 Agricultural context

Section summary:

Pakistan's utilization of agricultural land is the highest among the three countries under consideration, and it has the largest area of irrigated land (followed by Iran). Consequently, it also enjoys the highest agricultural production in total - with a higher growth rate. While cereals and coarse grains account for the largest share of agricultural production in Afghanistan and Pakistan, the production of fruits and vegetables occupies this position in Iran. Agriculture's contribution to GDP during the 2002-12 period remained almost consistent for Pakistan and Iran, with some fluctuations, while it dropped significantly in the case of Afghanistan, demonstrating this country's poor agricultural performance.

3.2.1 Agricultural land

All three countries have a vast landmass, Iran having the largest - followed by Pakistan. However, in terms of agricultural land, Afghanistan has a greater area than Pakistan. But more significant is the fact that Afghanistan has the least arable land - only accounting for around one fifth of its agricultural

¹² Data exclude opium production (2011 est.)

area, while Iran has one third. Pakistan is in a much better situation compared to the other two countries - almost 80 per cent of its agricultural area is arable, which means that agricultural land utilization is the highest in Pakistan. Among the three countries, Pakistan is also privileged from the irrigation standpoint; almost all its arable land is irrigated, while only half of the arable land in the other two countries is irrigated.

Table 3.2. The situation of agricultural land in Afghanistan, Pakistan and Iran

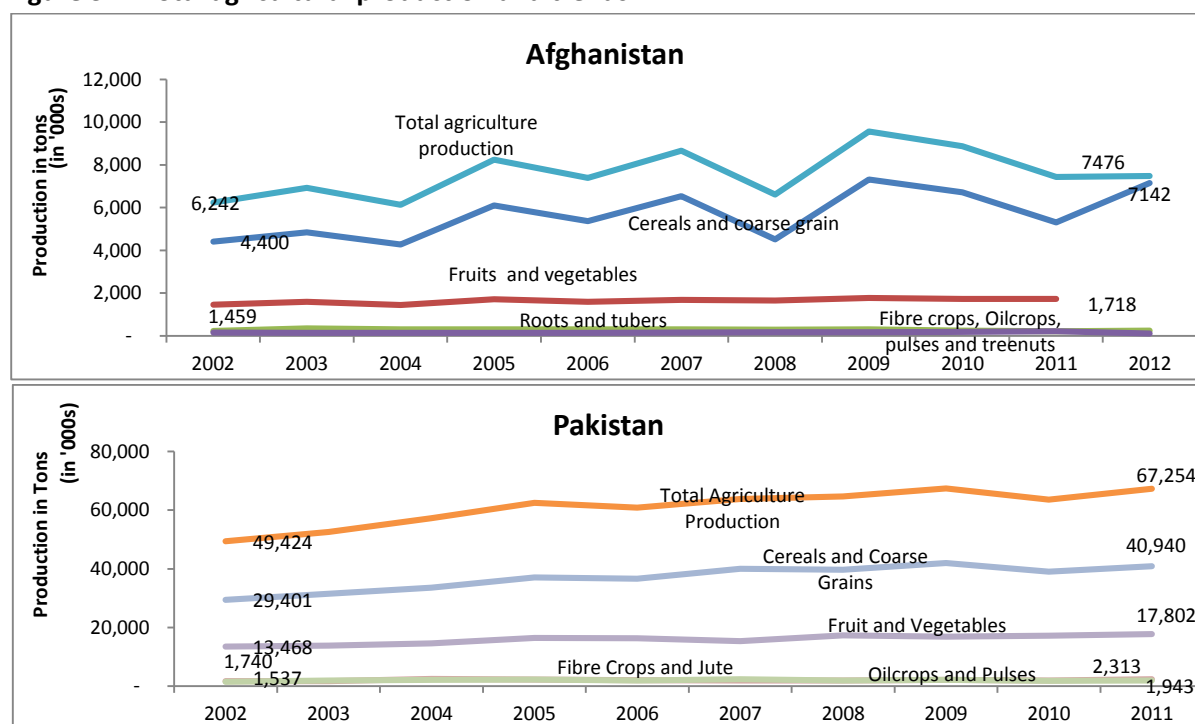
	Afghanistan	Pakistan	Iran
Country area	65,223	79,610	174,515
Agricultural area	37,910	26,550	48,957
Arable land	7,791	20,714	17,541
Fallow land	4,710	Not available	4,375
Total area equipped for irrigation	3,208	20,200	9,413

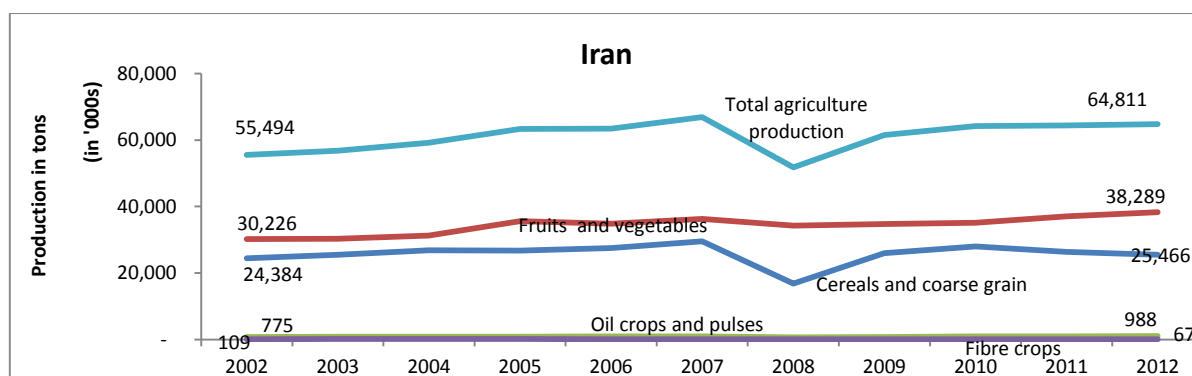
Source: FAO Statistical Year Book (FAOSTAT) 2013 (figures in '000 Hectare and data for 2011)

3.2.1 Overall production and trend

Figure 3.1 shows a comparative picture of the three countries' major crop groups and their production growth trends. It is clear that Pakistan has the highest agricultural production, as well as the highest growth trend, compared to the other two countries. A striking difference among the countries is that while cereals and coarse grains are the major crops for both Afghanistan and Pakistan, fruits and vegetables constitute the bulk of Iran's production. This demonstrates that Iran's agriculture is more inclined to high value crops, compared to that of Afghanistan and Pakistan.

Figure 3.1: Total agricultural production and trends



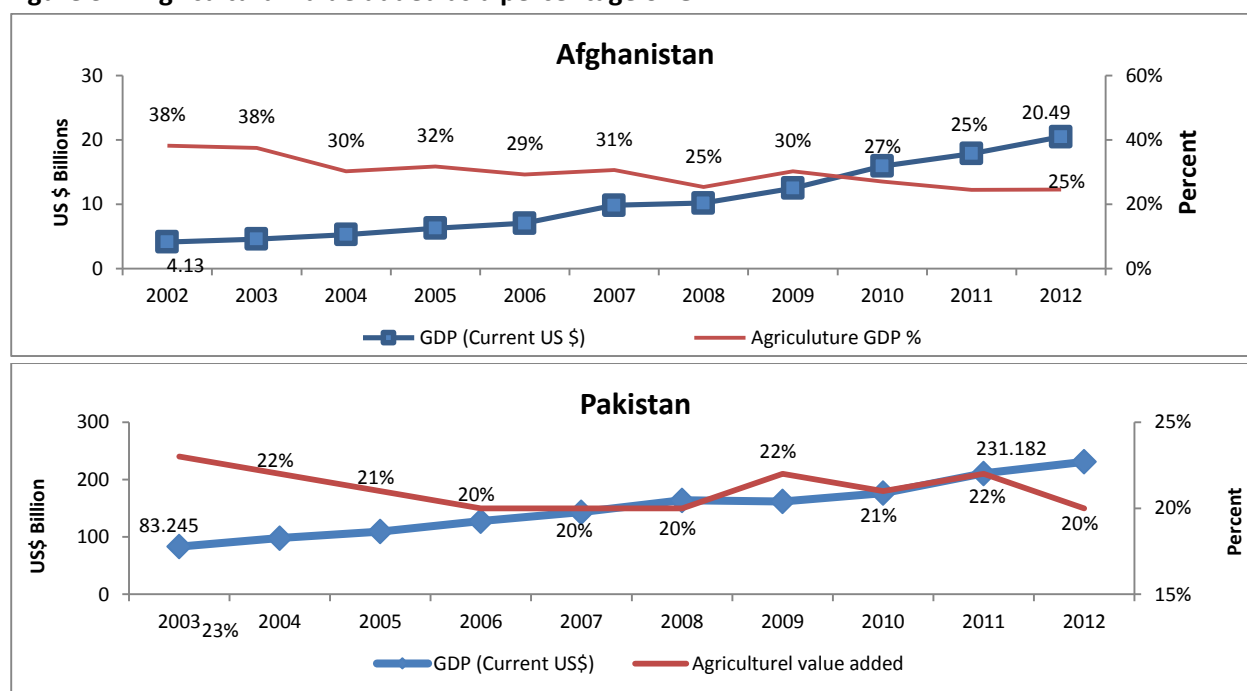


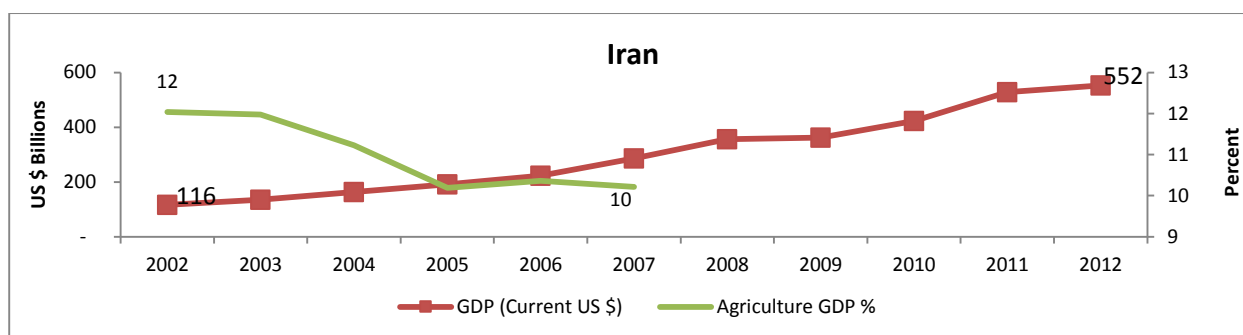
Source: FAOSTAT, 2013

3.2.2 Agricultural value added to GDP

Figure 3.2 shows the growth of agriculture as a percentage of GDP in all three countries. While Afghanistan's economy grew five-fold during the 2002-12 period, its agricultural share of GDP declined significantly, demonstrating a poor performance in this sector. During the same period, Pakistan's economy grew three-fold and its agriculture maintained a fairly consistent performance, only registering a drop of 2 per cent of share of GDP. Iran's agricultural value added of GDP has always been lower compared to that of the other two countries. The same source (WDI) does not have data for Iran after 2007; however it may be seen from table 3.1 that Iran's agricultural value added of GDP fell slightly after 2002, but that it maintained a stable contribution to GDP, albeit from a low base.

Figure 3.2. Agricultural value added as a percentage of GDP





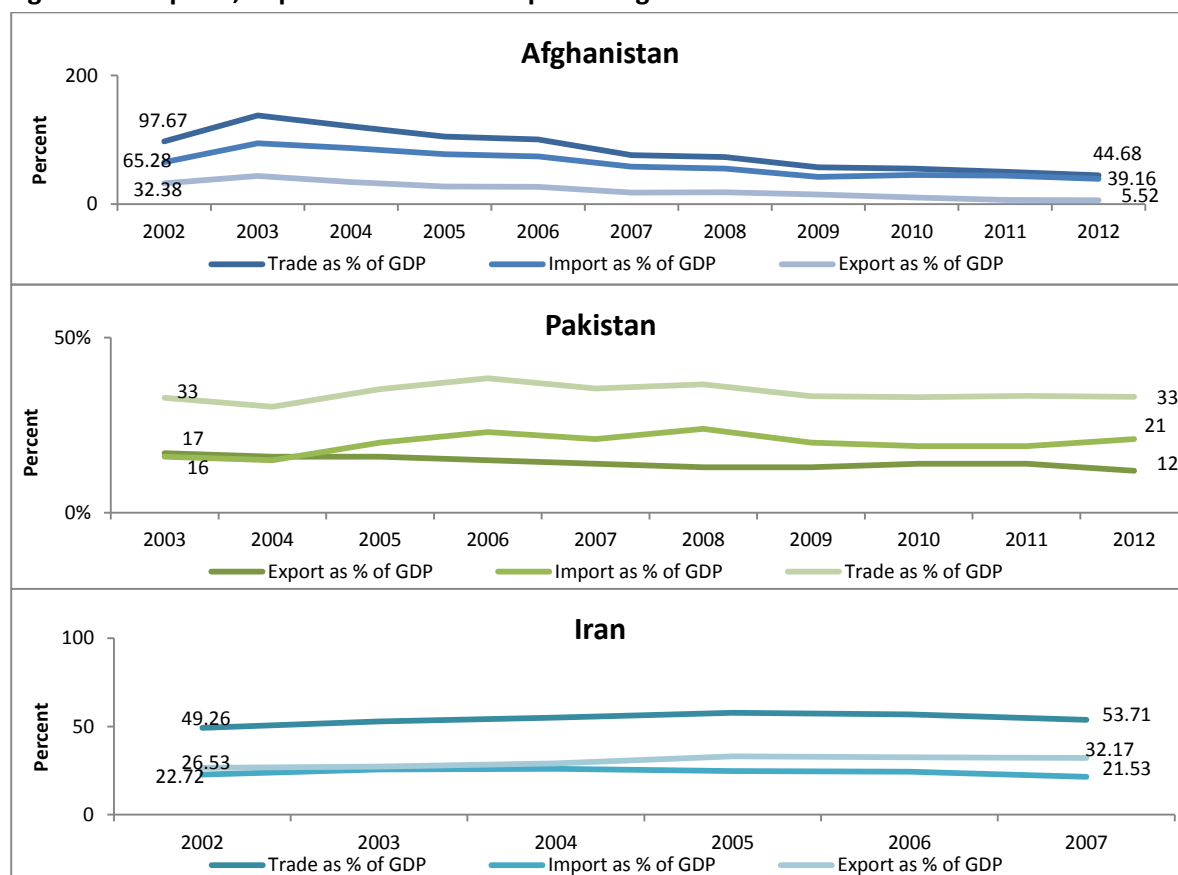
Source: World Development Indicators (WDI) Database, World Bank, 2013

3.3 Comparative trade situation

Section summary: Pakistan maintained its trade to GDP contribution in a constant manner, with a slight increase in imports and a decrease in exports. In the case of Afghanistan, its trade's contribution to GDP constantly decreased, but imports accounted for a much higher contribution than exports. Until 2007, Iran demonstrated a slight growth in trade to GDP contribution, with exports being the higher contributor. Both Pakistan and Iran continued to increase their exports to Afghanistan, whereas growth was sluggish in Afghanistan. The products for which Afghanistan previously had price competitiveness were increasingly exported from the other two countries during this period. It goes without saying that exchange rates affect trade. Taking 2003 as the base year, the Pakistani currency depreciated by 75 points during the 2003-14 period, while Iranian currency decreased by 218 points. Afghan currency only slightly depreciated by 18 points during this time. Inflation reached a peak in 2008 (except for Iran, where inflation in 2012 was slightly higher than in 2008) due to the severe drought in the region in that year. In terms of ease of doing business, Pakistan is in a much better situation followed by Iran. In terms of the time taken to export in days, as well as the trade cost to export (USD per container), Afghanistan is highly uncompetitive compared to Pakistan and Iran.

3.3.1 Trade to GDP

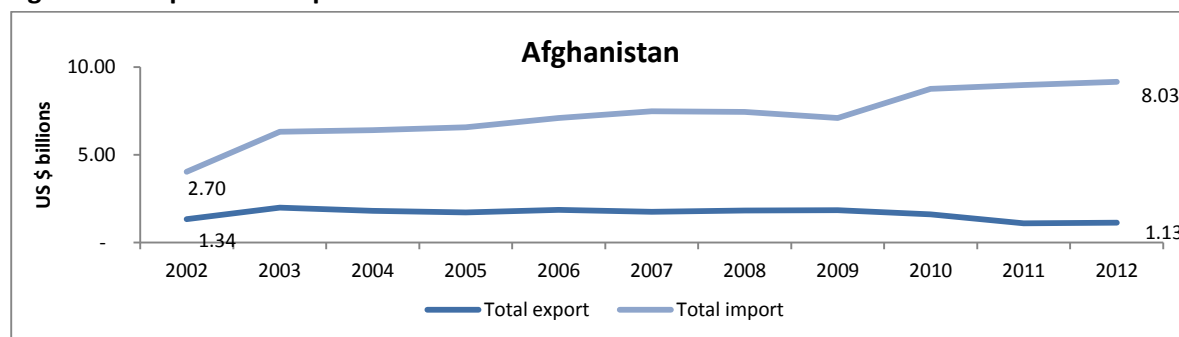
Figure 3.3 shows trade and its contribution to GDP in a time series for all three countries. It may be seen that Pakistan maintained its trade to GDP contribution in a constant manner, with a positive growth in imports and a negative trend in exports. Afghanistan's situation differs quite considerably from that of the other two countries. This may be attributed to the fact that after the Taliban regime, the country was mostly dependent upon trade as its production base was very weak. Over time, trade's contribution to GDP constantly decreased, with imports being a much higher contributor than exports. Unfortunately, statistics for Iran's trade and its contribution to GDP are only available until 2007. These show a slight growth in trade to GDP contribution, with exports being the higher contributor.

Figure 3.3. Exports, imports and trade as a percentage of GDP

Source: WDI Database, World Bank, 2013

3.3.2 Export and import trends

Figure 3.4 shows the export and import trends for all three countries. In the period 2002-12, Afghanistan's imports increased four-fold, while its exports remained sluggish and even slightly decreased. In the same period, Pakistan's imports increased more than three-fold while its exports doubled. On the other hand, Iran's exports tripled while imports grew by about two and half times.

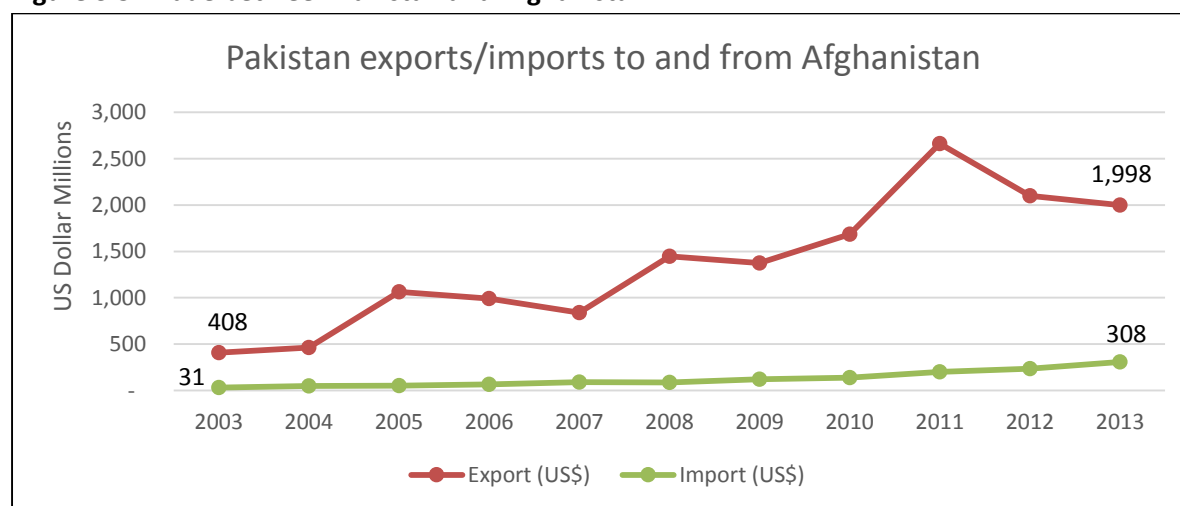
Figure 3.4. Export and Import trends



Source: WDI Database, World Bank, 2013

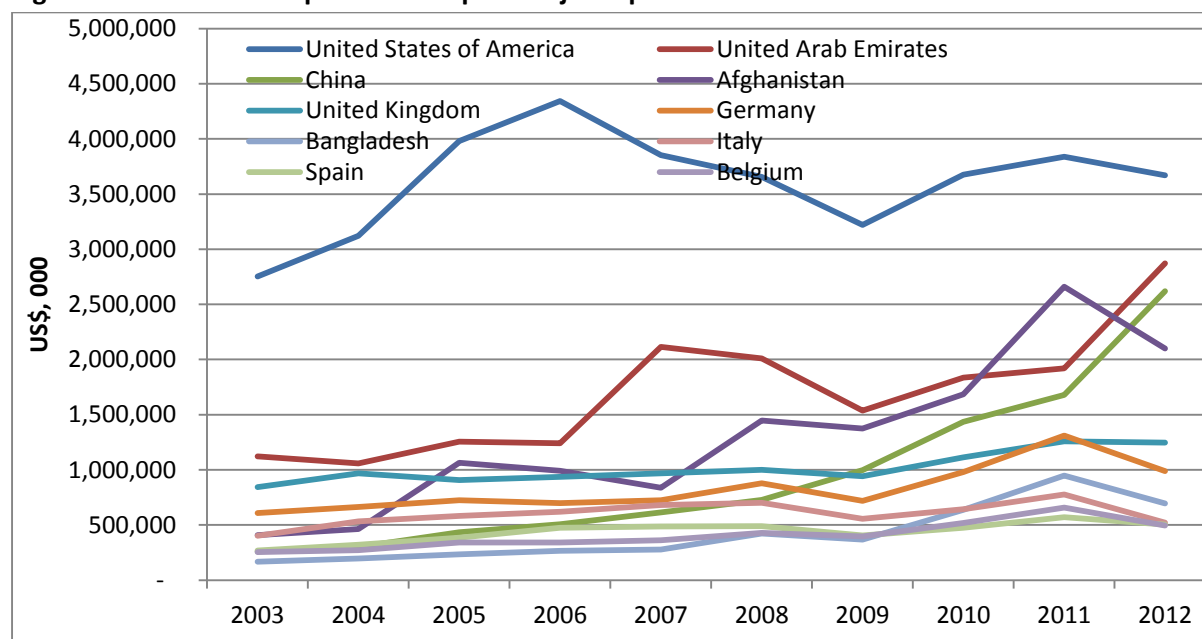
One of the most significant changes that happened during the period 2003-12 was that Afghanistan became an increasingly important export destination for Pakistan. During the period, Pakistan's exports to Afghanistan grew from US\$ 0.4 billion to around US\$ 2 billion, while Afghanistan's exports to Pakistan reached only around US\$ 308 million. The trade gap continued to expand in favour of Pakistan during this period (figure 3.5).

Figure 3.5. Trade between Pakistan and Afghanistan



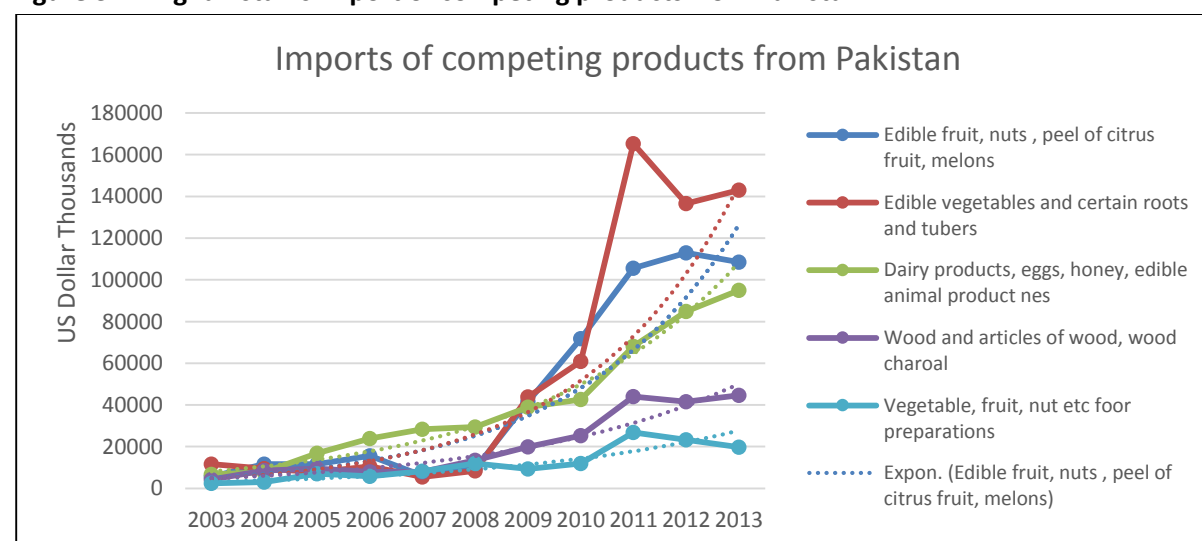
Source: United Nations Commodity Trade Statistics Database (COMTRADE)

Afghanistan is now one of the top export destination of Pakistan's products along with USA, UAE and China (figure 3.6). Afghanistan is an outlier among Pakistan's major export partners as others are either rich nations or industrialized developing economies such as China and Bangladesh.

Figure 3.6. Pakistan's export to its Top 10 Major Export Partners

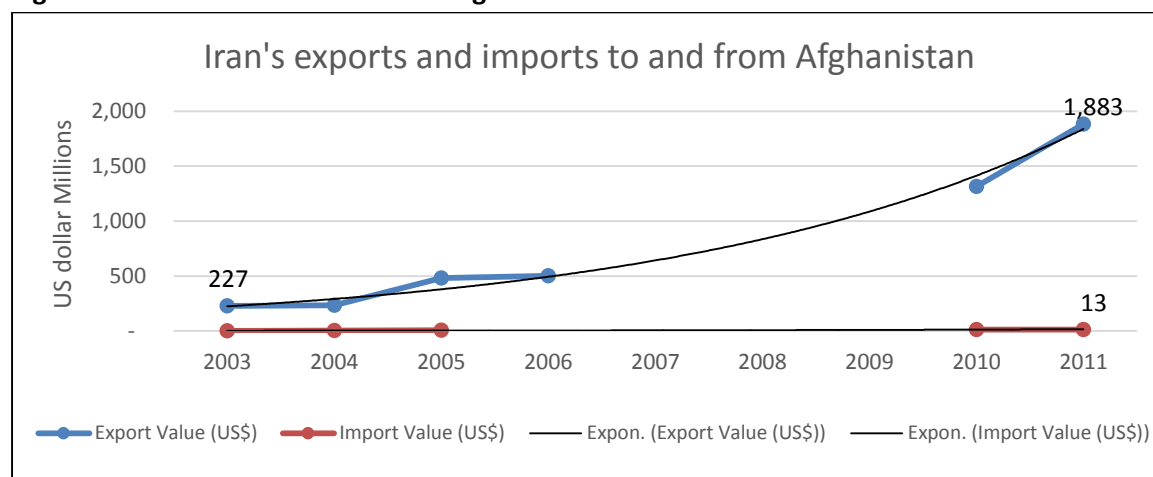
Source: Trade Map, International Trade Center

During the 2003-12 period, Afghanistan continued to import an increasing amount of the competing products that it used to produce itself (figure 3.7).

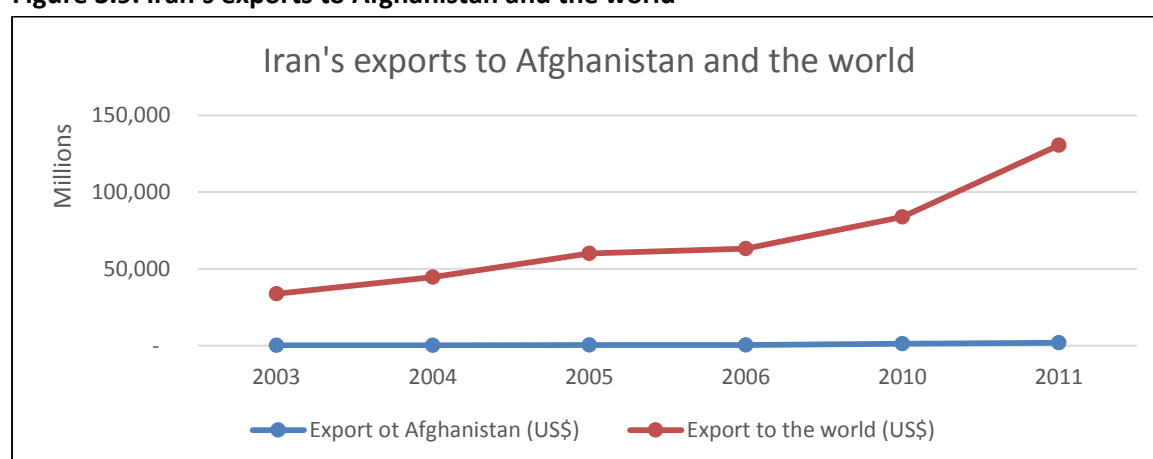
Figure 3.7. Afghanistan's import of competing products from Pakistan

Source: UN COMTRADE

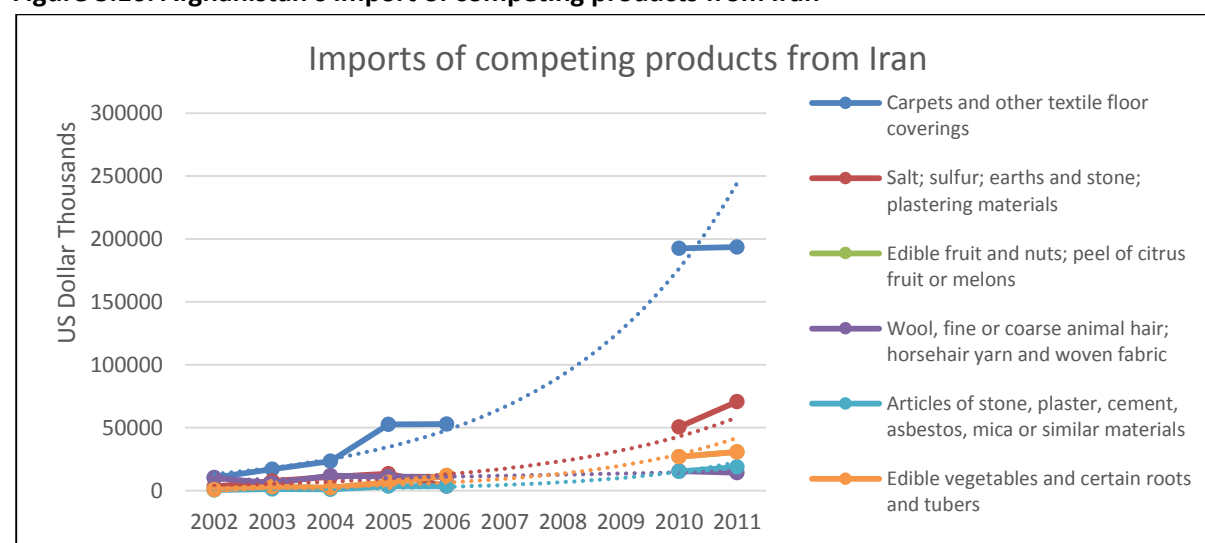
A similar pattern can be observed between Iran and Afghanistan in terms of trade. Iran's exports to Afghanistan continued to grow (US\$ 227 million in 2003 to US\$ 1.9 billion in 2011 - figure 3.8), while Iran's export share to Afghanistan remained the same (1 per cent of its total export to the world - figure 3.9). Figures 3.8 and 3.9 show that Iran's total exports to the world continued to increase, as did its exports to Afghanistan. In the same way as Pakistan, Iran also continued to export products to Afghanistan, which the latter used to produce itself (figure 3.10).

Figure 3.8. Trade between Iran and Afghanistan

Source: UN COMTRADE

Figure 3.9. Iran's exports to Afghanistan and the world

Source: UN COMTRADE

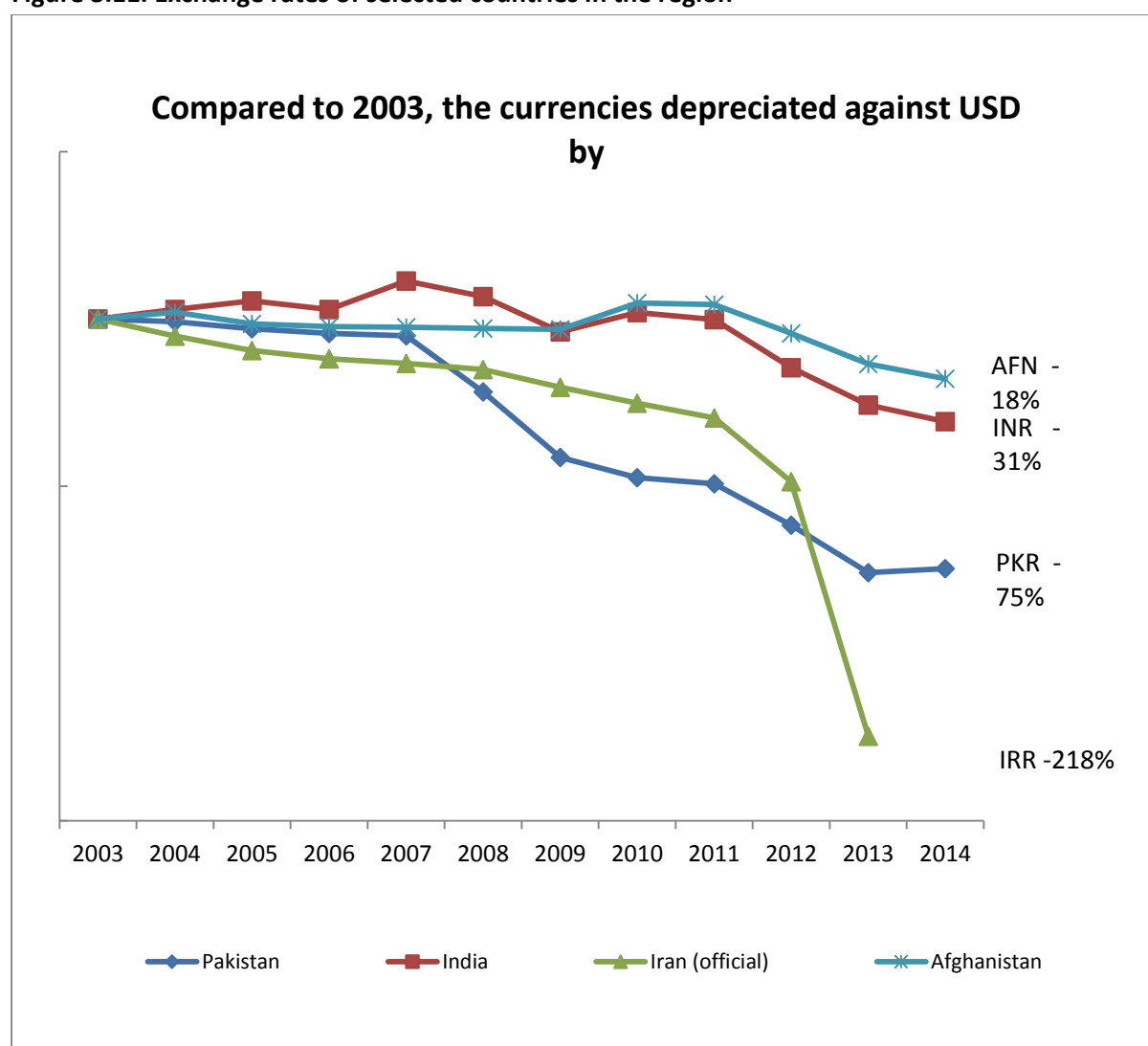
Figure 3.10. Afghanistan's import of competing products from Iran

Source: UN COMTRADE

3.3.3 Exchange rates

Currency devaluation is seen as an advantage in the short term to gain export competitiveness. It is used as a macro instrument by many countries to boost its exports, although this is often a short-term solution. Pakistan depreciated its currency many times during the 2003-14 period, with a cumulative depreciation of as much as 75 per cent. For its part, Iran's currency was depreciated by 218 per cent during the same period, while Afghanistan's currency only depreciated by 18 per cent. The relative movement of the different currencies (compared to the base year 2003) in the region is shown in figure 3.11.

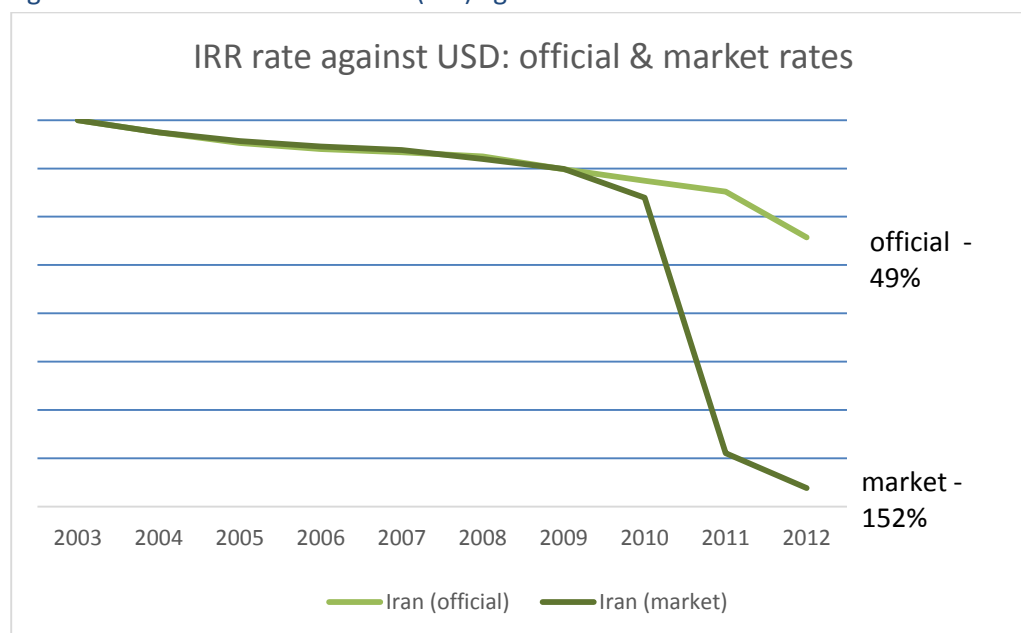
Figure 3.11. Exchange rates of selected countries in the region¹³



Source: WDI, World Bank Database

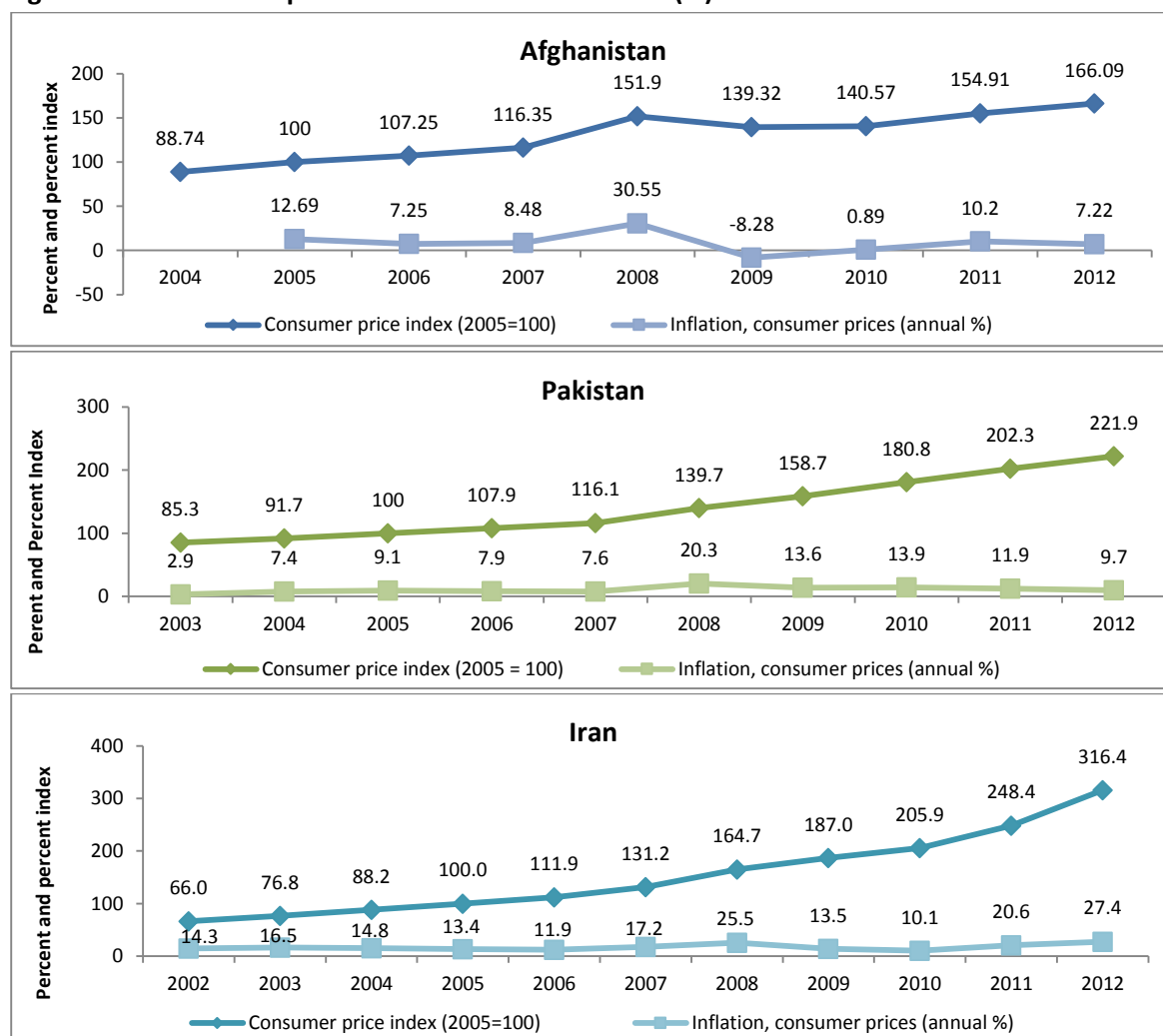
¹³ Data up to 2013 were extracted from WDI and 2014 data were extracted from Oanda.com. Iran's free market rate varies significantly from the official rate. The free market rate was collected until 2012 from the Central Bank in Iran.

Figure 3.12 Internal rate of return (IRR) against USD: official and market rates



3.3.4 Inflation and consumer price index

Figure 3.13 shows the inflation and consumer price index of the three countries under consideration. A common pattern may be observed for all three countries: inflation reached its highest point in 2008 (except for Iran where the inflation in 2012 was only slightly higher than in 2008). It is understood that all three countries share similar climatic conditions and 2008 was a severe drought year in the region. In Afghanistan, inflation remained within the range of 10 per cent (even being negative in 2009), while Pakistan's inflation dropped to slightly under 10 per cent in 2010 – having been above 10 per cent in the preceding three years. Iran's inflation rate has always been higher than that of the other two countries, and it has been even higher in recent years. Considering 2005 as the base year, prices were up by 167 points in Afghanistan, 222 points in Pakistan and 315 points in Iran – the latter having the highest score.

Figure 3.13. Consumer price index and inflation trends (%)

Source: WDI, World Bank.

3.3.5 Ease of doing business

According to the World Bank's 2014 report, *Doing Business*¹⁴, it is still significantly harder to do business in Afghanistan than in its trading partners under consideration in this study - Pakistan and Iran. Afghanistan ranked 183 out of 189 countries. In fact, its ranking had declined from 168 in 2012, 182 in 2013 and 168 in 2012. The other two countries fared better in comparison: Pakistan was 128th and Iran 130th on the list in 2014. In terms of the time taken to export in days (figure 3.15), as well as the trade cost to export (figure 3.14), Afghanistan is in a disadvantageous situation compared to Iran and Pakistan, and this situation has deteriorated over the past few years. Pakistan takes relatively less time to export compared to both Iran and Afghanistan. However, Afghanistan is landlocked and depends mostly upon Pakistan for the transit of its goods by sea to many distant markets, which slows down the whole process.

¹⁴ World Bank : *Doing Business. Understanding regulations for small and medium-size enterprises* (Washington DC, 2014).

Figure 3.14. Trading across borders - cost to export - Afghanistan, Iran and Pakistan (USD per container)

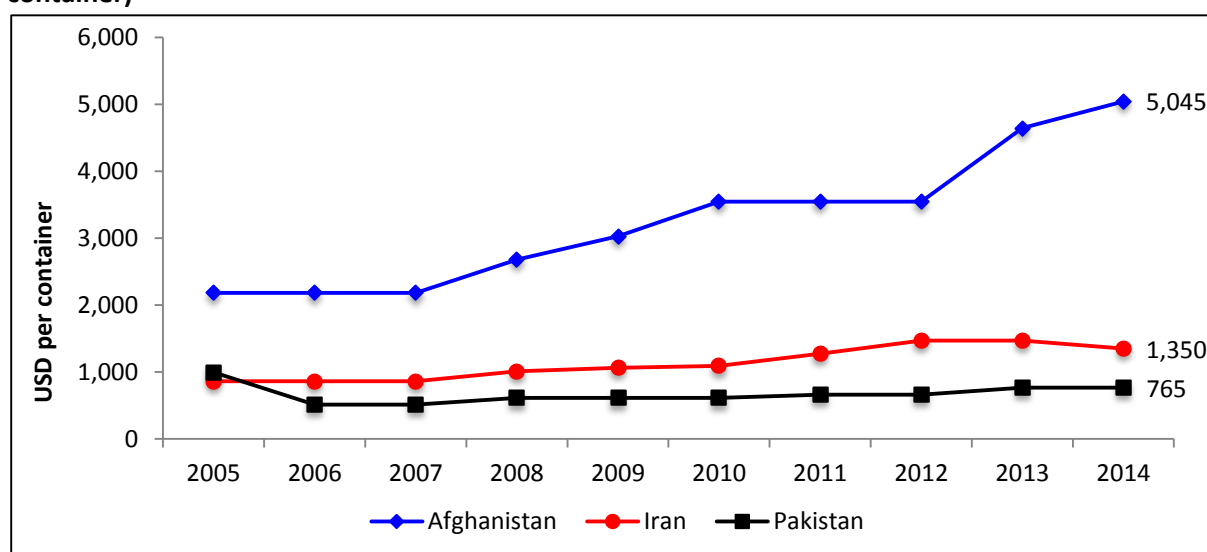
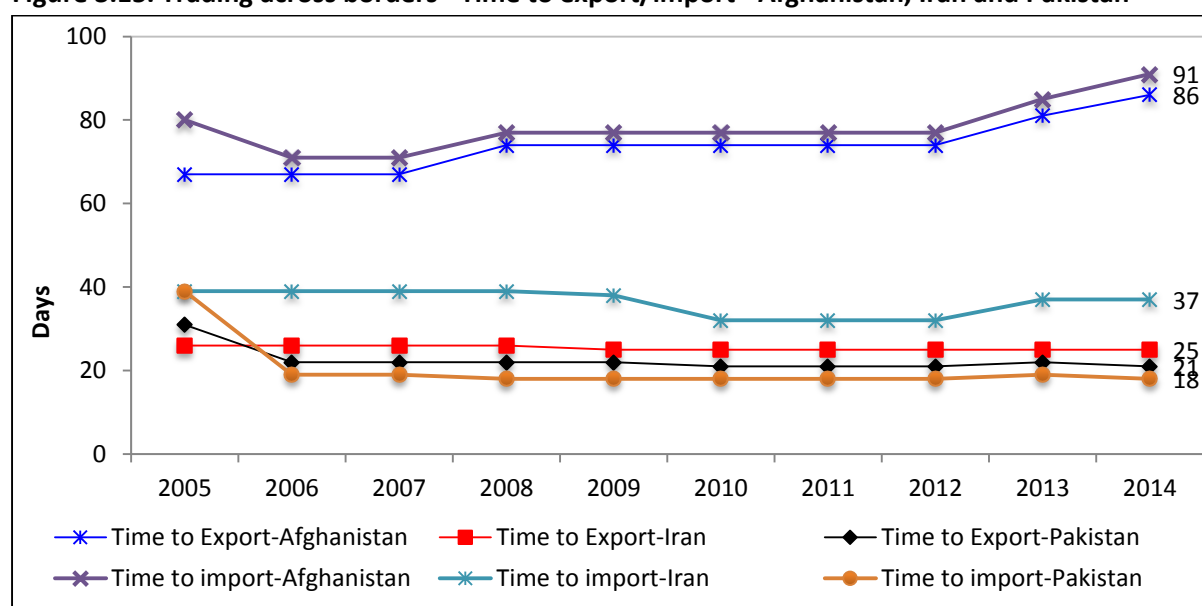


Figure 3.15. Trading across borders - Time to export/import - Afghanistan, Iran and Pakistan



3.4 Regional trade pattern

Section summary: Agriculture, being a major sector in all countries of the region, may not necessarily result in the increased regional trade of different agricultural commodities by exploiting “the comparative advantage” of specific sub-sectors, as many nations have an insufficient export-surplus to meet the requirements of the importing countries. Regarding trade liberalization, Afghanistan has a more liberal trade regime for consumer goods and products with minimal restrictions, and in particular for agriculture crops and agro products, compared to Iran and Pakistan. With its liberal trade policy and subsequent surge in imports, Afghanistan has widened market avenues for other countries; however, it has failed to generate revenue through customs duties. Even after strengthening its customs system (ASYCUDA implementation started in 2005 and is currently ongoing), a huge amount of customs revenue is lost every year due to the non-payment - or lower-than-assessed value payments - of duties on account of high levels of corruption at almost all border entry points throughout the country. Also, Afghanistan has failed to reap the anticipated benefits from various regional trade agreements.

Afghanistan has a liberal trade regime for consumer goods and products with minimal restrictions. Import bans are maintained on only a few products, largely on religious grounds, and there are no seasonal restrictions, quotas, or other non-tariff barriers on imports. The main licit exports out of Afghanistan are dried fruits and nuts, carpets and galeems/rugs, and wool. There are, in addition, exports of limited quantities in fresh fruits, vegetables, cotton, animal by-products, gemstones, and more recently, saffron.¹⁵ The main imports are capital goods, construction materials, fresh and processed foodstuffs, pharmaceuticals, textiles, other manufactured goods, electricity, and petroleum products. Parts of this section are based on (and update) a report by the Afghanistan Public Policy Research Organization (APPRO).¹⁶

Since 2002 there has been official recognition by the Government of Afghanistan and its international donors that bolstering Afghanistan trade is directly dependent on the rehabilitation of transport infrastructure, revitalization of key-economic sectors, improved security and governance, harmonization of border customs systems, and rationalization of trade agreements.¹⁷ A liberalized trade regime has been promoted and actively implemented since 2001 as a means to strengthen the private sector. There have been several attempts to simplify customs requirements for imports and exports and to shorten the arduous processes for acquiring trade and business licenses. Customs modernization and reform have had a significant impact on the automatization of customs procedures, while the procedure for acquiring a trade license has been simplified from requiring 42 steps and 58 signatures, and now takes only a few days rather than several weeks of waiting.¹⁸

The general perception for Afghanistan and other countries of South Asia has been that since agriculture is a major sector in all of these economies, there must be comparative advantages that could and should be exploited through increased regional trade. However, a recent assessment by UNCTAD finds that this perception is largely unqualified and misplaced.¹⁹ It may also be seen in chapter 4 that in the case of some of the selected value chain crops, one country has an exportable surplus during the peak harvest season, while it has to import from the same country to which it exports during the off-season.

To assess the demand-supply scenarios, the UNCTAD report uses such indicators as production/consumption ratio, import/consumption ratio, ending stocks/consumption ratio and production instability index. The production/consumption ratio for rice is high in Pakistan, ending

¹⁵ Since 2002 there has been an increasing focus on minerals and fossil fuels, accompanied by investments from international donors and commercial interests through the Government of Afghanistan. These investments, however, are unlikely to generate export yields in the foreseeable future, particularly given the uncertainties associated with 2014 as a critical year for Afghanistan's security and future prospects.

¹⁶ APPRO: *Afghanistan and regional trade: More, or less, import from Central Asia* (Kabul, 2014), available from: <http://appro.org.af/preview/afghanistan-andregional-trade-more-or-less-import-from-central-asia/>

¹⁷ M. Alam and H. Iwasaki: *Technical assistance to the Islamic Republic of Afghanistan for cross-border trade and transport facilitation* (Manila, Asian Development Bank, 2004).

¹⁸ The Central Asian Regional Economic Cooperation (CAREC) Program: *Quantitative Restrictions on Trade*. Revised version of paper presented at the Seventh Trade Policy Coordinating Committee Meeting of the Central Asian Regional Economic Cooperation Program on 6 September 2007 (Manila, Philippines). CAREC also reported that the streamlined process entailed only three steps, six signatures, and two days. Subsequent research conducted by APPRO on the trade licensing process in 2010 and 2011 shows, however, that the number of steps, signatures, and days have risen again significantly with numerous complaints by the traders about corruption.

¹⁹ C.S.C. Sekhar, and Y. Bhatt: *Regional value chains. Food security in South Asia - prospects for regional integration* (UNCTAD, Geneva, 2012).

stocks are inadequate in Afghanistan, and the production instability index is high for Afghanistan and Iran and medium for Pakistan. As for emerging trends in Afghanistan, the production growth rate is almost equal to that of consumption while the yield growth rate is stagnant. It also appears that Afghanistan is largely self-sufficient in rice with no major deficits.

There are deficits for wheat in most of the countries in the region, however. The report finds that the production/consumption ratio is medium in Afghanistan and Pakistan and low in Iran. All major importers such as Iran hold high level of stocks showing predominantly precautionary transaction motives of stockholding. The production instability index is high for Afghanistan but low for Pakistan. In Afghanistan, the emerging trends show that the production growth rate is much lower than that of consumption. As a result, Afghanistan meets its supply-demand gap through imports. The area and yield growth rates for Afghanistan, Iran and Pakistan are reported as “promising.”

In Iran, the production growth rate is higher than that of consumption. There is a decline in imports and increase in exports while the growth rate of ending stocks is reasonable, in that these emerging trends indicate that Iran is likely to be self-sufficient in wheat in the near future. In Pakistan, the production growth rate is higher than that of consumption. There is steady growth in stockholding and exports. The growth rate of area and yield are also reported as satisfactory. These trends indicate that there are definitive potentials of wheat exports in Pakistan.

A key conclusion of the UNCTAD report is that while there may be residual gains to be made through increased trade in agricultural products among South Asian countries, there is insufficient export surplus in the region to meet the import requirements of Bangladesh, Sri Lanka, and Iran. Similar analyses for corn, sugar, pulses and edible oils show, conclusively, that India and Pakistan are the largest economies in the region and closest to self-sufficiency and/or export surplus in most commodities.

The report concludes that many domestic commodity markets of the region remain insufficiently integrated.²⁰ Across the countries retail rice markets are better integrated as compared to wheat and wheat flour markets. However, market integration alone is insufficient for meeting the regional demand for basic agricultural commodities. Potential areas of further economic collaboration among the countries of the region with a focus on food security would benefit from collaborative agricultural research, particularly on cereals and edible oilseeds, coordination in pricing and trade policies and development of transport infrastructure, cooperation on common physical and virtual reserves, collaboration on improving health outcomes, and instituting Early Warning Systems on natural calamities.²¹

Recognizing Afghanistan’s reliance on imports and poorly maintained or tampered records at the border crossings, international donor programming since 2002 has placed particular emphasis on improving and expanding customs facilities and practices at major border crossing points.²² In 2005 work began to implement the Automated System for Customs Data (ASYCUDA), currently ongoing.

²⁰ This finding is key in projections for impacts on employment in the agricultural sector of increased regional trade between Afghanistan and its two immediate neighbours, Iran and Pakistan

²¹ Sekhar and Bhatt, op.cit.

²² S. Parto and E.Saadat: *Customs reform in Afghanistan: Moving between introduced and pre-existing structures* (2011), available from: www.appro.org.af

The Five Year Master Plan of the Afghan Customs Department (Ministry of Finance) reports an estimated total project expenditure of US\$ 202 million for strengthening and expanding the customs system.²³ Key areas of intervention and reform according to the Five Year Master Plan are minimizing leakage in duty collection through rationalization of laws, procedures, and automated processes to facilitate clearance of goods and minimize corruption among system users and operators.²⁴

Afghanistan currently has one of the most sophisticated customs systems in the region.²⁵ Major interventions to improve the customs system since 2003 include the construction of infrastructure and other facilities at major border crossing points, enactment of a modern customs legislation, harmonized system for the classification and coding of goods, development of a single customs form for customs declarations, computerization of transit procedures (through implementation of ASYCUDA in 2005), import-related exemptions policy and procedures, automated data collection, and production of customs statistics among others. This said, there are serious problems with incorrect recording of trade data by customs officials in Afghanistan, corruption within the customs system, and, more generally, various coordination / cooperation-related regional issues that cannot be addressed through technology or procedural changes on the Afghanistan side alone.²⁶ It is estimated that around US\$ 1 to 2 billion of potential revenue from customs operations is lost every year due to non-payment, or lower than assessed value payments, of duties due to high levels of corruption at all border entry points throughout the country, with the notable exception of Kabul Airport.²⁷

Major internal challenges for the Afghan customs system include lack of electricity and/or generators or lack of fuel for generators, lack of adequate running water and sanitary facilities, low salaries of customs staff, deteriorating security, and the emergence of a parallel, “shadow”, customs system, held largely responsible for the loss of revenue from customs operations.²⁸ Also, despite major reforms there remain a number of key challenges for importers particularly in terms of the number and complexity of procedures for clearance, licensing, and payment of duty.²⁹ Finally, the available data on trade flows are incomplete and unreliable.

Regional trade links and key issues

A main assumption underlying the efforts to promote trade and private sector development in Afghanistan has been the potential for Afghanistan to act as a land bridge between Central Asia and South and West Asia or a transport hub for the movement of regional goods and even a key segment

²³ Afghanistan Customs Department: *Afghan Customs Department: A Five Year Strategic Plan (2007-12)*. (Kabul, Government of Afghanistan, 2007).

²⁴ Ibid.

²⁵ Parto and Saadat, op.cit.

²⁶ See, for example, D. Lewis: “High times on the Silk Road: The Central Asian paradox”, in: *World Policy Journal*, 27(1), 2010, pp. 39-49, and Parto and Saadat, op.cit., for further details and discussion.

²⁷ This is based on anonymous interviews with key informants from the Customs Department of Afghanistan’s Ministry of Finance during 2011 and 2012.

²⁸ See, for example, Committee on Foreign Relations (United States Government): *Central Asia and the transition in Afghanistan*, a majority staff report prepared for the use of the Committee on Foreign Relations United States Senate, 112th Congress, 1st session, December 19, 2011; United Nations Economic Commission for Europe (UNECE): *Strengthening regional cooperation in Central Asia: A contribution to long-term stability and sustainable development of Afghanistan*, Background Note, SPECA Economic Forum (2010); United Nations Economic and Social Commission for Asia and the Pacific (ESCAP); and Parto and Saadat, op.cit..

²⁹ O. Havrylyshyn: *Trade and institutional environment: The international experience and a proposed agenda of measures for CAREC Countries*, Reference Document For Session 4 of the Trade Policy Coordinating Committee (2010).

of a “New Silk Road”.³⁰ The support for these arguments comes from the fact that trade among Central Asia Regional Economic Cooperation (CAREC) countries, excluding Azerbaijan, has been growing on average at almost 40 per cent per year since 2002.³¹ The value of intra-CAREC trade in 2006 was US\$ 28 billion, five times its 2002 value. Similarly, the share of Afghanistan’s total trade with CAREC member states was nearly 26 per cent higher in 2006 than in 2002. Except for Uzbekistan whose CAREC trade was growing at rates below those of other countries, intra-CAREC trade increased more than 50 per cent in 2006 over 2002³² (table 3.3).

Table 3.3. Share of contiguous CAREC countries in total trade turnover 2000-06

	2000	2001	2002	2003	2004	2005	2006	Index 2006 2002=100
Afghanistan	3.9	3.5	2.6	2.1	3.6	2.3	3.3	126
China	0.4	0.4	0.4	0.5	0.5	0.6	0.7	174
Kazakhstan	7.5	7.6	10.2	12.3	10.5	17.8	16.8	164
Kyrgyzstan	32.6	33.1	33.8	31	41.2	51.7	60.5	179
Tajikistan	21.4	19	15.8	15.9	15.7	15.9	23.7	150
Uzbekistan	15.4	13.4	13.1	10.8	12.4	11.2	10.5	80

Source: World Bank (2007)³³

Trade between Afghanistan and its neighbours to the north - and with Pakistan and Iran - has further potential to grow. Doing so, however, would require stability at home, particularly in light of the outcome of the 2014 presidential elections, the peace process with the Armed Opposition Groups, and the pending security agreement between Afghanistan and the United States. Regardless of the political factors, increased regional trade would require much better and integrated infrastructure, formal institutions, harmonized regulatory frameworks such as trade agreements and customs unions, a more collaborative (and sanction-free) Iranian government, and a less crisis-ridden Pakistan.³⁴

Much hope has been expressed with the signing of the Afghanistan-Pakistan Transit Trade Agreement (APTTA) for increased trade between Afghanistan and Pakistan.³⁵ The agreement is expected to simplify transit requirements within the two countries and at border entry points. The agreement is also expected to increase cooperation between the two countries on customs clearance issues, cargo labelling, security, conflict resolution, and smuggling.

Pakistan is the main exporter of flour to Afghanistan followed by Kazakhstan. There are also small

³⁰ See, for example, A. Baylay: *Report on border and customs related facilities and procedures in Afghanistan* (2005); CSATTF – ADB on Afghanistan as a land bridge; American Institute of Afghanistan Studies and Hollings Center for International Dialogue: *Afghanistan’s other neighbors: Iran, Central Asia, and China* (Istanbul, 2008); S.F. Starr: “Regional development in Greater Central Asia: The Afghan Pivot”, in Rotberg et al. (eds.), *Building a new Afghanistan* (2007); and the Committee on Foreign Relations (United States Government) on Afghanistan as key to the new Silk Road (2011).

³¹ The Central Asia Regional Economic Cooperation Program (CAREC) was set up as a partnership of 10 Central Asian countries (Afghanistan, Azerbaijan, China, Kazakhstan, Kyrgyzstan, Mongolia, Pakistan, Tajikistan, Turkmenistan, and Uzbekistan) to facilitate project-based cooperation in transport, trade, energy, and other key sectors of mutual interest among Central Asian countries. CAREC is supported by six multilateral institutions (Asian Development Bank, European Bank for Reconstruction and Development, International Monetary Fund, Islamic Development Bank, United Nations Development Programme, and the World Bank), mandated to promote development through regional cooperation, leading to accelerated growth and poverty reduction.

³² World Bank: *Deepening integration in border regions within CAREC: The Asia region* (Washington DC, 2009) p. 6.

³³ These figures are cited in the World Bank (2007) report as being “based on the author’s own calculations from IMF DOTS data”.

³⁴ Most of these prerequisites have also been cited by Alam and Iwasaki, op.cit.

³⁵ Pakistan Institute of Legislative Development and Transparency: *Pak-Afghan Trade* (2011).

amounts of flour imports from other neighboring countries including Iran. During the food crisis in 2008 Kazakhstan increased its share of flour imports by Afghanistan to 34 per cent of about 1.3 million metric tons in total. Afghanistan has not been able to rebuild its milling capacity due largely to an inability to compete with the heavily subsidized milling industry in Pakistan and the illicit (and cheap) imports of flour through Pakistan into Afghanistan's market. Arguments have been made in favour of Afghanistan abolishing its tariffs on wheat and flour imports as the most economically efficient way of addressing domestic demand for flour while, at the same time, introducing policies to protect domestic millers.³⁶

It has been argued that uncoordinated trade and monetary policies, outdated transportation infrastructure, and *ad hoc* levies are among the key historical causes of weak trade between Afghanistan and its neighbours.³⁷ These causes have been reinforced with the international military engagement in Afghanistan since 2001 and likely to be undermined by the sustained armed insurgency in Afghanistan. Also, despite increased openness in terms of reduced tariff and non-tariff barriers and increased trade turnover as a percentage of GDP for Afghanistan over the last 12 years, trade between Afghanistan and its neighbours continues to be hampered by endemic and widespread corruption and inefficient formal institutions and arrangements.

While much attention has been paid to increased trade, market liberalization, private sector development, and regional strategizing based on the "New Silk Road" vision, less has been stated or done with respect to the distribution of gains (including employment) from increased trade activity, the role of private sector actors in nurturing and perpetuating corruption, and the adverse public health impacts of poorly regulated or unregulated flow of goods in foodstuffs, pharmaceuticals, and capital consumer goods.³⁸ Another key neglected issue is the regional economic integration of Afghanistan as a deterrent to local and regional disorder. For Afghanistan, dependency on imports of consumer and capital goods is likely to continue for many years to come. There is negligible value adding industrial activity or capacity for import substitution. Moreover, some of the manufacturing capacity has been seriously undermined or eliminated recently as an outcome of the liberalized trade regime, which is proving too competitive for Afghan manufacturers.

The liberal trade regime of Afghanistan is also pronounced in the agriculture sector. As presented in Table 3.4, Afghanistan's import tariffs for the five agriculture value chains are the lowest among the three countries. Afghanistan's tariff rates range from 2.5 per cent of rice and 5 per cent of wheat and wheat flour to 10 per cent for tomato products as well as potato and potato chips to 20 per cent for fresh tomato. Afghanistan has the lowest tariff rates among the three countries for all the products of the five value chains except for Raisin where its 40 per cent tariff is higher than that of Iran (25 per cent) and Pakistan (30 per cent).

Iran's agriculture tariffs are the highest across the board, ranging from 45 per cent applied for rice, tomato ketchup and potato and potato tips to 70 per cent for wheat and wheat flour, 80 per cent for

³⁶ S. Persaud: *Afghanistan's wheat flour market: Policies and prospects*. (United States Department of Agriculture, Washington DC, 2013).

³⁷ See M.C. Spechler: "Regional cooperation in Central Asia", in *Problems of post-communism* (2002).

³⁸ A significant portion of electrical and electronic appliances imported into Afghanistan is re-exported to Pakistan and Iran due to Afghanistan's significantly lower tariffs than Pakistan and Iran.

tomato paste and 100 per cent for grape. Pakistan's tariff are in-between, from 10 per cent to 30 per cent.

Table 3.4. Import tariff of the five agriculture value chains of the three countries in 2012

VC/ derivatives	Import tariff in three countries in 2012		
	AFGHANISTAN	IRAN	PAKISTAN
Grape	16%	100%	30%
Raisin	40%	25%	30%
Wheat	5%	70%	15%
Wheat flour	5%	70%	15%
Wheat bran	5%	50%	10%
Rice	2.5%	45%	10%
Paddy	2.5%	45%	10%
Fresh tomato	20%	60%	30%
Tomato paste	10%	80%	30%
Tomato ketchup/ sauce	10%	45%	30%
Table Potato	10%	45%	15%
Potato chips	16%	45%	30%

3.5 Prices of production factors

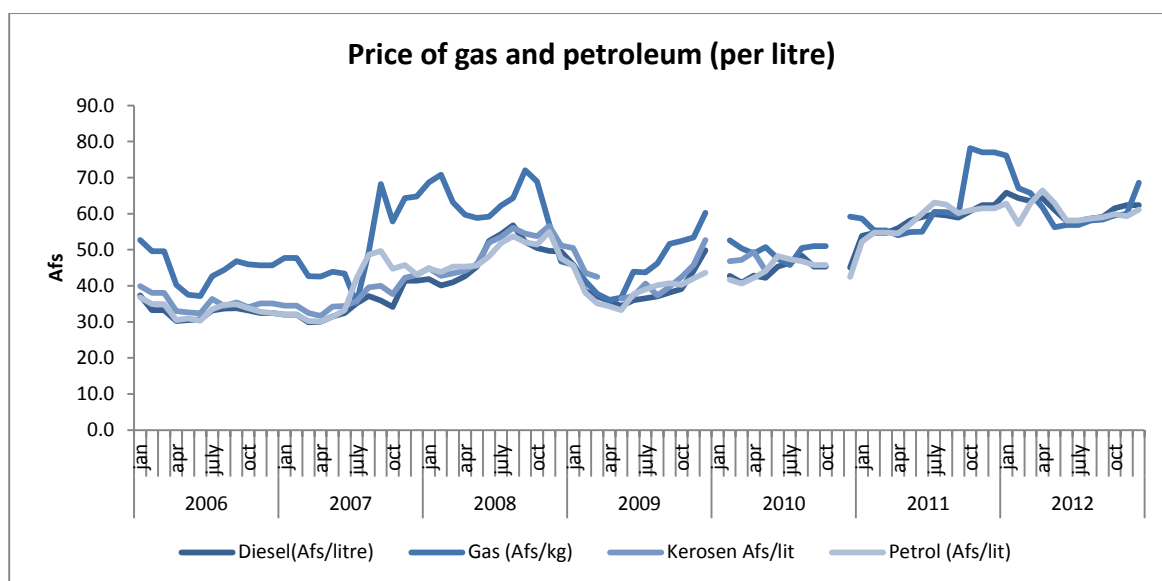
Section summary

The price of production factors such as energy (diesel, kerosene, petrol and electricity) increased significantly during the last decade in each of the countries under consideration. Generally speaking, however, the increase in prices, in US Dollar terms, seems to have favoured both Pakistan and Iran but not so much Afghanistan. Price increases have been much higher in Afghanistan.

3.5.1 Energy prices

The prices of gas, diesel, kerosene and petrol in Afghanistan were considerably higher in 2012 than in 2007. For example, the average price of petrol was around 36 Afs/litre in 2007, but was 63 Afs/litre in 2012. Meanwhile the price of gas increased from around 40 Afs/litre in 2007 to 65 Afs/litre in 2012. The price of diesel increased from 36 Afs/litre in 2007 to 61 Afs/litre in 2012 (figure 3.16).

Figure 3.16. Price trend of gas and petroleum products in Afghanistan



Source: MAIL, Afghanistan price bulletin (combined as time-series data)

The price of electricity, which is distributed by a government entity called Da Afghanistan Brishan Shirkat (DABS), varies according to different provinces/cities and certain types of consumers. The residential areas pay the lowest electricity rates, while the commercial entities and government agencies pay the highest; however the electricity tariffs are lower for registered factories in order to encourage domestic production. It is worth noting that the price of electricity remained unchanged during the 2009-2012 period. In Bamyan province, where the Government produces electricity through generators and there is no imported or local hydropower, the electricity tariff is much higher compared to other provinces.

Table 3.5. Electricity tariffs in Afghanistan in selected provinces/cities in 2012

City	Tariff rate for electricity (Afs/KWh)									
	Governmental Entities	Commercials	Registered factories	Unregistered factories	NGOs	Residential customers				
						1-200 kwh	201-400 kwh	401-700 kwh	701-2000 kwh	2000-XXX kwh
Kabul	10.00	10.00	6.00	10.00	10.00	1.50	2.50	4.50	6.50	8.00
Baghlan	10.00	10.00	6.00	10.00	10.00	1.50	2.50	4.50	6.50	8.00
Balkh	12.00	12.00	9.00	12.00	12.00	4.50	4.50	4.50	4.50	4.50
Kunduz	7.00	7.00	6.00	7.00	7.00	2.50	2.50	2.50	2.50	2.50
Bamyan	45.00	45.00	45.00	45.00	45.00	16.00	16.00	16.00	16.00	16.00
Kandahar	10.00	10.00	6.00	10.00	10.00	1.50	2.50	4.50	6.50	8.00
Herat	7.40	7.40	6.40	7.40	7.40	3.40	3.40	3.40	3.40	3.40
Nangarhar	10.00	10.00	6.00	10.00	10.00	1.50	2.50	4.50	6.50	8.00

Source: Da Afghanistan Brishna Shirkat (DABS), Afghanistan

The price of petroleum products has risen considerably during the past 10 years. The increase has been quite significant in the case of high-speed diesel, followed by an increase in the price of compressed natural gas (CNG). Prices mostly increased during the 2007-12 period, when the Pakistani

currency also depreciated significantly. Farmers mostly use diesel-operated tube-wells for irrigation and other machinery for cultivation purposes. In 2012, the agricultural sector used 31,800 tons of light diesel oil (LDO), compared to the 109,300 tons utilized in 2007. While the use of LDO has decreased in the agricultural sector, its price increase is associated with rising production costs. The price changes of fuel are shown in table 3.6.

Table 3.6. Changes in average retail prices (in PKR) of petroleum products in Pakistan between 2003 and 2012

Product	Unit	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	% Change (2003 - 2012)	% Change (2007 - 2012)
Petrol Super (price in PKR)	Litre	32	37	50	58	54	75	62	71	84	99	209	83
High-speed diesel (price in PKR)	Litre	22	24	33	41	38	63	62	75	92	106	382	179
Compressed natural gas (price in PKR)	Litre	18	22	28	32	34	46	48	55	62	74	311	118

Source: Adopted from data maintained by the Pakistan Bureau of Statistics, 2012-13

With the decreasing use of diesel, electricity consumption in the agricultural sector has increased. In 2012, out of the total of 18.2 million hectares of irrigated land, 4.03 million hectares were irrigated by tube-wells, while 7.86 million hectares were irrigated with water sourced from both canals and tube-wells. The electricity used in agriculture increased from 8,472 GWH (11.5 per cent of total electricity consumption) to 8,548 GWH (11.1 per cent)³⁹. There are two tariff schemes applicable depending upon the level of usage, i.e. the amount of kilowatts hours per month (KW/M) consumed. In addition there are different applicable rates for peak and off-peak usage. There has been a significant increase in the peak-time usage for both categories of consumers (<5 KW and >5 KW) i.e. 150 per cent and 373 per cent, respectively. The applicable rates of electricity are given in table 3.6.

Table 3.7. Changes in tariffs for the use of electricity in Pakistan

Description of Tariff Scheme		2007	2008	2009	2010	2011	2012	% Change
Less than 5 kW	Fixed Charges (PKR/Kw/M)	90	90	90	99	103	120	33
	Variable Charges (Rs/kWh)	Peak	4	4	5.39	5.21	8.47	150
		Off Peak	7	6.31	6.31	8.3	5.31	-14
More than 5 kW	Fixed Charges in Rs/Kw/M	88.8	78.8	78.8	200	200	200	125
	Variable Charges (Rs/kWh)	Peak	2.75	3.36	3.36	4.46	10.1	373
		Off Peak	6	7.55	7.55	9.91	4.55	33

Source: Ministry of Water and Power, Government of Pakistan

³⁹ Government of Pakistan, Ministry of Finance: "Electricity & Petroleum Oil in Agriculture Sector", Statistical Supplement, in *Economic Survey of Pakistan 2012-13*.

The price of petroleum products also increased substantially in Iran during the 2001-2010 period. Table 3.8 shows the price changes.

The Federal and Provincial Government in Baluchistan provides a subsidy for the use of electricity for tube well operations. In 2012, farmers had to pay a fixed sum of PKR 6,000 per tube well, while the remaining amount was shared between the Government of Baluchistan (60 per cent) and the Federal Government (40 per cent). The current level of subsidy accounts for 90 per cent of the actual cost. Among the five selected value chain crops, only grapes are produced on a large scale in Baluchistan. Withdrawing this subsidy for electricity would have a greater impact on grape farmers than any others throughout the country, because only Baluchistan receives such a subsidy for electricity. The potential repercussions of doing away with this subsidy are analysed in Chapter 6.

Table 3.8. Nominal price of oil-based products in Iran

						<i>Litre/IRR</i>
Year	Petrol	Octane	Kerosin	Deisel	Mazut	Liquid Gas
2001	450	605	120	120	64.2	24
2002	500	665	130	130	70	26
2003	650	900	160	160	88.2	28.6
2004	800	1100	165	165	94.5	31.7
2005	800	1100	165	165	94.5	31.7
2006	800	1100	165	165	94.5	31.7
2007	1000	1400	165	165	94.5	30.8
2008	1000	1500	165	165	94.6	30.9
2009	1000	1500	165	165	94.5	30.9
2010						
Befre targeted *subsidies	1000 but above quota limit it was 4000	1500 but above quota limit it was 5400	165	165	94.5	57.2
After targeted *subsidies	4000 but above quota limit it is, 7000	5000 but above quota limit it is, 8000	1000	**1500, 1501, 3500	2000	**1800, 4860, 5400
Reference: Ministry of Energy, IRI						
*Targeting subsidies initiated by the Government on 18 December 2010						
**Each vehicle or engine using petroleum-based fuel has a special monthly quota that differs according to the type of their engines.						

It is clear that there was a sudden upsurge in prices after the Government of Iran introduced the Targeted Subsidy Reform Act in 2010.⁴⁰

⁴⁰ The subsidy on petroleum products was reduced significantly

Table 3.9 makes an overall comparison of the energy prices, and their changes, in the two benchmark years of 2007 and 2012.

Table 3.9. Comparison of energy price changes

Country	Energy product	Price per litre in local currency		Price per litre in USD	
		2007	2012	2007	2012
Afghanistan	Petrol	39 Afs	63 Afs	0.78	1.24
	Diesel	36 Afs	61 Afs	0.72	1.20
	Gas	40 Afs	65 Afs	0.80	1.28
Pakistan	Petrol	54 PKR	99 PKR	0.89	1.06
	Diesel	38 PKR	106 PKR	0.63	1.13
	Gas	34 PKR	74 PKR	0.56	0.79
Iran ⁴¹	Petrol	1,000 IRR	4,000 IRR	0.11	0.20
	Diesel	165 IRR	1,500 IRR	0.02	0.07
	Gas	30.8 IRR	1,800 IRR	0.003	0.09

Table 3.9 shows an interesting picture. In terms of local currency, all the energy components increased significantly in all three countries - with the Iranian price increase being particularly marked. When the prices are compared in USD, they reveal some interesting dynamics. In 2007, all the energy prices were lower in Iran, while Afghanistan and Pakistan had a mixed situation; in Afghanistan petrol was cheaper, while diesel and gas were more expensive. In 2012, the prices became cheaper for all components in Pakistan and with larger gaps when compared to those in Afghanistan. In Iran, all the energy products maintained their price competitiveness in 2012.

3.5.2 Fertilizer prices

Two major fertilizers - urea and diammonium phosphate (DAP) - were considered for this comparison. It is clear from table 3.9 that, in local currency, prices increased by at least 100 per cent in all three countries, although the increases were much higher in Iran. The price changes in USD reveal some particularly striking facts. In 2007, the prices for both urea and DAP were cheaper in Afghanistan than in Pakistan, but in 2012 they became more expensive. In Iran, prices were always the cheapest - both in 2007 and 2012.

Table 3.10. Comparison of fertilizer prices

Country	Fertilizer	Price in local currency		Price in USD	
		2007	2012	2007	2012
Afghanistan	Urea	12 Afs	25 Afs	0.24	0.49
	DAP (Phosphate)	24 Afs	50 Afs	0.48	0.98
Pakistan	Urea	17 PKR	35 PKR	0.28	0.37
	DAP (Phosphate)	38 PKR	80 PKR	0.63	0.86

⁴¹ Iran has quota system shown in Table 3.8.

Iran ⁴²	Urea	500 IRR	3,000 IRR	0.05	0.14
	DAP (Phosphate)	700 IRR	5,000 IRR	0.08	0.24

The Government of Pakistan grants a subsidy on urea by providing gas supplies at concessional rates to factories. In the case of imported urea, the Government bridges the price differential between international and local urea prices. In 2012, the average price differential between domestically produced and imported urea (without a Government subsidy) was PKR 1,015/bag (50 kg). The Government covered the feed/fuel differential by granting concessionary feed/gas for PKR 250/bag, and the remaining PKR 765/bag was borne by the farmers. Therefore, as calculations show, the price of urea in Pakistan in 2012 would have been 54 PKR per kg if the Government had not granted a subsidy. The implications of this subsidy for the price competitiveness of agricultural products is analysed in Chapter 6.

3.5.3 Wage rates

The wage rates also increased in all three countries during the 2007-12 period. For comparative purposes, the rates have been converted into US dollars, which show that wage rates have always been the cheapest in Pakistan, followed by Afghanistan. Although the wage rates in local currency in Pakistan and Iran increased significantly between 2007 and 2012, the change was marginal in US dollar terms.

Table 3.11 Comparison of wage rates

Country	Wages in local currency		Wages in USD	
	2007	2012	2007	2012
Afghanistan	200 Afs	350 Afs	4.00	6.87
Pakistan	185 PKR	310 PKR	3.05	3.32
Iran	120,000 IRR	270,000 IRR	12.82	12.86

3.6 Labour force and employment status

Section summary: The labour market performance in Afghanistan deteriorated recently, including the significant increase in unemployment rate from 13.5 per cent of 2011-12 to 22.0 per cent of 2013-14. Out of 8.5 million labour force, 1.9 million are already unemployed, 1.4 million underemployed, 3.3 million not gainfully employed and 6.7 million in vulnerable employment. Youth and women are suffering most from the under-performing labour market. The agriculture sector of Afghanistan accounts for the largest share of the labour market - 44 per cent of employment (2.9 million). According to the Economic Survey of Pakistan (2012-13), Pakistan has a total labour force of 59.33 million, of which 3.53 million people are unemployed. Among the employed, 25.14 million workers are engaged in agriculture, the major employment-creating sector. According to the labour force census in 2011, Iran has an active labour force of 20.5 million, of which around 19 per cent are engaged in agriculture and the forestry and fishing sectors.

Afghanistan

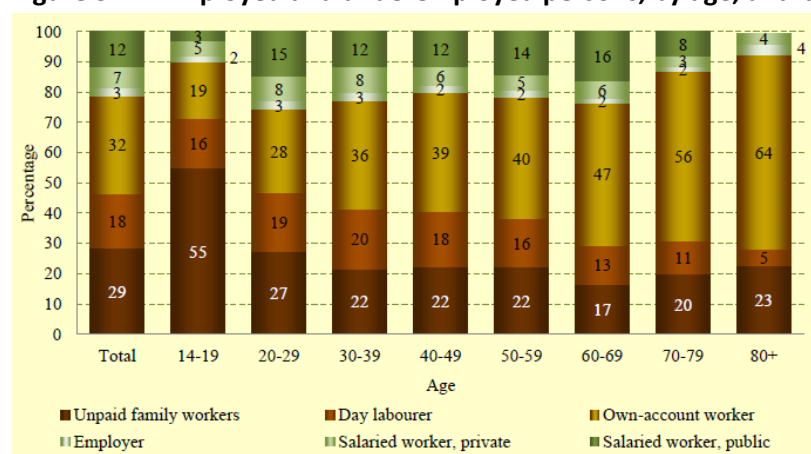
⁴² Ibid.

In Afghanistan, the NRVA (National Risk and Vulnerability Assessment) and ALCS (Afghanistan Living Conditions Survey)⁴³ provide the primary data for labour market information which is considered most reliable. The NRVA/ALCS 2011-12 introduced new definitions of labour market indicators including different definitions⁴⁴ for the working age population (WAP) in Afghanistan. Due to the change in definitions – as well as in the questionnaires – the 2011-12 labour force indicators cannot be compared to those of earlier NRVA surveys, particularly NRVA 2007-08.

The ALCS 2013-14 report made an efforts to compare the data between NRVA 2007-08 and ALCS 2013-14 by retabulating the former data sets by applying the same definitions utilized in the latter. According to that, the labour force participation rate dropped from 65.4 per cent to 56.7 per cent so was the employment-to-population ratio from 56.7 per cent to 44.2 per cent. Meanwhile, the unemployment rate jumped from 13.5 per cent to 22.0 per cent while the inactivity rate increased from 34.6 per cent to 43.3 per cent. These indicate the deteriorating labour market performance.

Afghanistan has the third largest proportion of population under 15 years in the world, where over 400,000 youth are expected to join the labour force each year,⁴⁵ the equivalent of up to five per cent of the current Afghan labour force. The huge youth bulge combined with the recent slowdown of the economy triggered by the NATO force drawdown would explain the recent underperformance of the labour market indicators. According to the latest ALCS 2013-14 survey, out of 8.5 million labour force, 1.9 million are already unemployed, 1.4 million underemployed, 3.3 million not gainfully employed (the combined figure of unemployed and underemployed)⁴⁶ and 6.7 million in vulnerable employment (proportion of own-account and contributing family workers in total employment). Youth and women are suffering most from the under-performing labour market.

Figure 3.17: Employed and underemployed persons, by age, and by job status (in percentages)



Source: ALCS 2013-14

⁴³ The GoIRA renamed NRVA to ALCS recently.

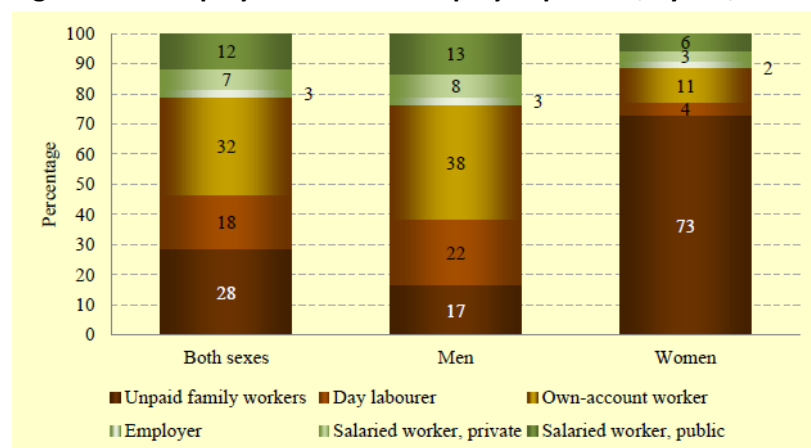
⁴⁴ The NRVA 2007-08 and NRVA 2011-12 questionnaires on labour covered persons over the age of 16 and 14 years, respectively.

⁴⁵ Assuming the present labour force participation rate of 55 per cent of the Afghanistan Living Conditions Survey (ALCS) 2013-14.

⁴⁶ The category “not gainfully employed” was introduced to the labour market indicators in Afghanistan at the time of NRVA/ALCS 2011-12.

The youth unemployment rate (15-24 years) was 27 per cent and women 37 per cent. The unemployment rate for young women is as high as 41 per cent. Overwhelming majority of young people (14-19 years) begin their working lives as unpaid family workers in agriculture (78 per cent of young unpaid family workers are in farming) while 73 per cent of women work as unpaid family workers.⁴⁷

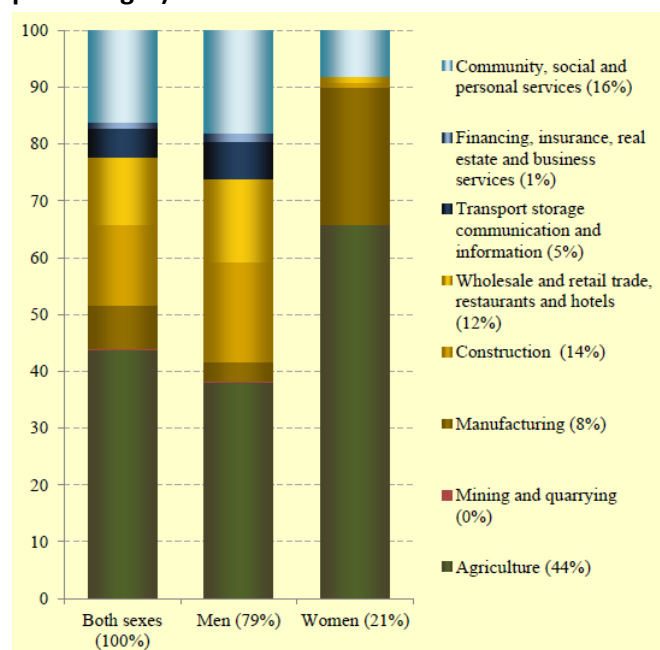
Figure 3.18: Employed and underemployed persons, by sex, and by job status (in percentages)



Source: ALCS 2013-14

The agriculture sector of Afghanistan accounts for the largest share of the labour market - 44 per cent of employment (2.9 million) as seen Figure 3.19.

Figure 3.19: Employed and underemployed persons, by sex, and by main economic sector (in percentages)



Source: ALCS 2013-14

NOTE: Numbers in parentheses denote the shares of total employment in each category.

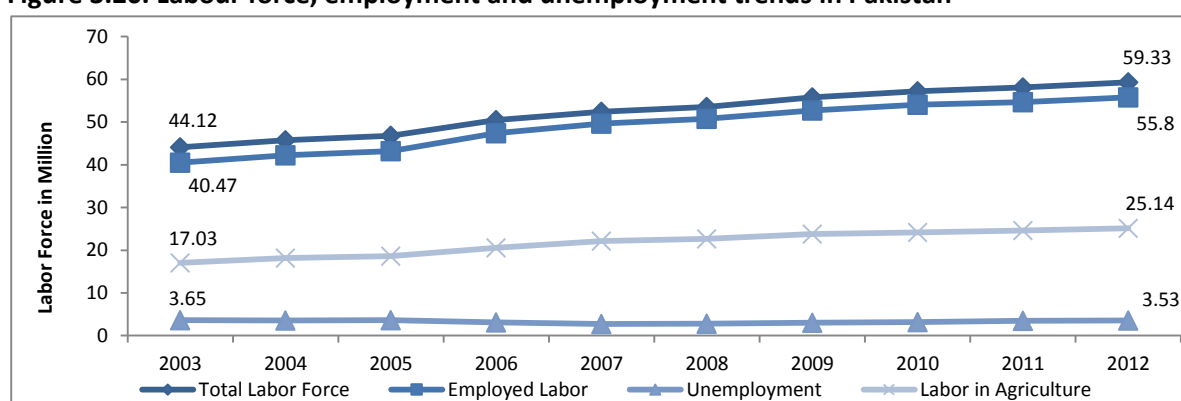
⁴⁷ Total number of unpaid family workers is 1.8 million, which constitutes 28 per cent of all employment.

Due to the changes of in definitions of labour market indicators and related survey questions, the figures may not be directly comparable, but the share of the labour force engaged in agriculture in the NAVA/ALCS 2011-12 was 40 per cent and NRVA 2007-08 59 per cent.

Pakistan

Pakistan has a sizable labour force, which has gradually been increasing over the years. According to the latest Economic Survey of Pakistan (2012-13), the country's labour force increased by 34.5 per cent between 2003 and 2012 (figure 3.20). Employment has kept pace with the growth in the labour force, and unemployment rates have consequently been low during the past ten years (6.3 per cent on average).

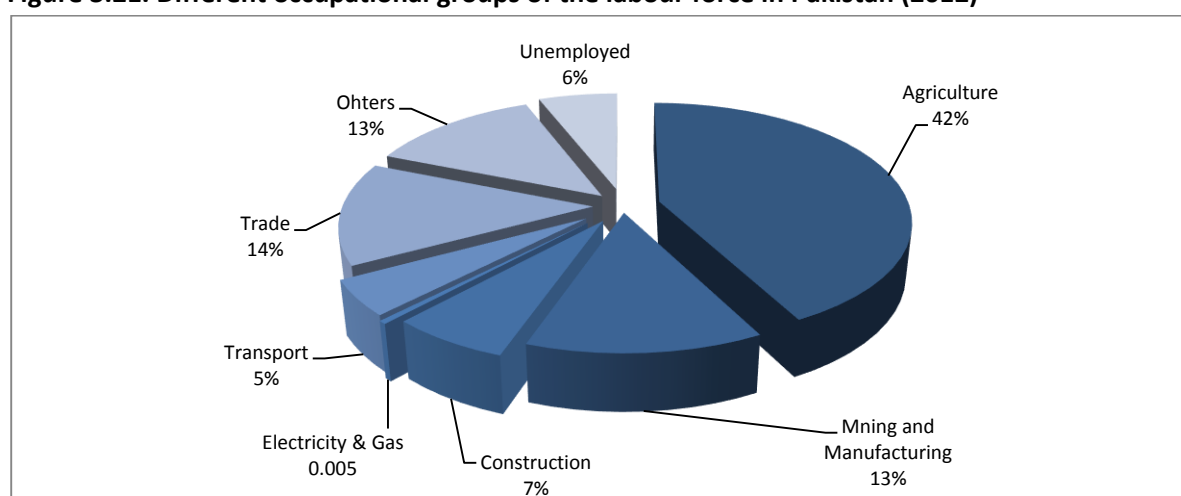
Figure 3.20. Labour force, employment and unemployment trends in Pakistan



Source: Economic Survey of Pakistan, 2012-13

Agriculture still remains the major employer of the working population in Pakistan. Over the past ten years, it has engaged, on average, 44 per cent of the labour force. In 2012, it accounted for 42 per cent of the country's working population (figure 3.21), followed by trade and mining and manufacturing – which employed 14 and 13 per cent of the total labour force, respectively.

Figure 3.21. Different occupational groups of the labour force in Pakistan (2012)



Source: Economic Survey of Pakistan, 2012-13

Islamic Republic of Iran

According to the latest labour force census in 2011, the total active labour force in Iran was estimated to be 20,546,874 (in which all the active population above 10 years of age was considered as labour). Figure 3.22 shows the breakdown of this active labour force by occupation.

Figure 3.22. Active labour force by occupation in Iran in 2011



Source: Statistical Centre of Iran

3.7 Immigration, emigration and labour migration

Section summary: The immigration scene in Afghanistan is less influenced by foreign workers (16,669 in 2013) but more by Afghans returning from neighbouring countries home (112,000 during 2012-14). While the repatriation of the Afghan refugees has reduced its importance in recent years, the recent phenomena seem to indicate the emergence of circular labour migration as the increasingly important pattern of emigration and immigration. With regard to out-migrants, 138,000 Afghans went abroad to find a job during 2013-14. The emigrant population is almost exclusively composed of men, heavily concentrated in the young adult, and the primary motive of emigration is finding a job. The top emigration destination for Afghans today is Iran followed by the Gulf states while Pakistan is no longer a popular destination. Besides, there were 278,000 seasonal labour migrants within the country in 2013-14. From a stock perspective of domestic migration, at least 238,200 changed place of residence within Afghanistan in search of jobs since 2002. Pakistan had some 621,000 registered overseas workers as of 2012, which is three times higher than the level of 2003. During the past 10 years, Saudi Arabia and the United Arab Emirates accounted for 83 per cent of the overseas employment of Pakistani workers. In the past ten years, only 56 workers emigrating to Iran have been registered by the Bureau of Emigration and Overseas Employment of Pakistan, whereas no data is available for workers' emigration to Afghanistan, which usually occurs informally.

Afghanistan⁴⁸

Official records of immigration and emigration are very scanty and/or not accessible. According to the Ministry of Labour, Social Affairs, Disabled and Martyrs (MoLSAMD), the number of foreign citizens

48 Figures referred in this section come from ALCS 2013-14 unless otherwise specified.

working in Afghanistan reached a peak in 2009, with a total of 21,779 foreigners working in the country. However the number had dropped to 16,669 by 2013 (figure 3.23).

Figure 3.23. Number of foreign workers in Afghanistan



Source: MoLSAMD, GoIRA

The immigration scene in Afghanistan has been dominated by return migration of the Afghan refugees since 2002. However, with the recent reduction of return migration (33 per cent since 2012), there has been rapid growth of those 'joining family' (31 per cent) and 'work-related' (10 per cent) (Figure 3.24). 112,000 Afghans were estimated to have returned to Afghanistan during the two years preceding the survey of ALCS 2013-14. While the immigrants citing 'joining family' could be considered as part of return migration as indicated in the ALCS report, it is highly probable that this is a reflection of circular labour migration, i.e., Afghan labour emigrants returning home. As observed below, the annual outflow of migration is larger than the annual inflow, and Iran has been maintaining its policy of forced return in the last few years. Iran has taken over the position of Pakistan as the country generating the most immigrants (63 per cent), followed by Pakistan (30 per cent) and the Gulf states. As seen below, they are also the major destination of emigration from Afghanistan where the main reason of emigration is to find a job.

Figure 3.24: Immigrants since 2002, by reason for immigration, and by period of immigration (in percentages)

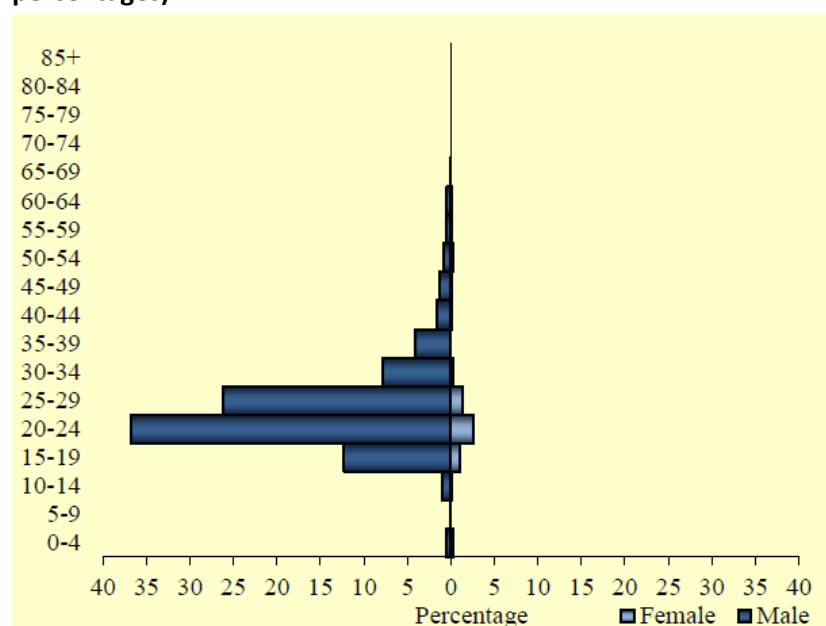


Source: ALCS 2013-14

ALCS 2013-14 presents the labour emigration (i.e., international labour out-migration) that took place within one year preceding the survey as reported by the remaining family members in Afghanistan. The figure was 138,000, which is considered an underestimation as it obviously misses those who emigrated by whole family. The total labour emigration for the same period was 161,000, indicating that labour emigration constituted 86 per cent of the total emigration. Besides, there were 278,000 who were engaged in seasonal labour migration within one year preceding the survey. This indicates, although imperfect and underestimated, that a total of 318,000 individuals could be considered as the number of labour migrants of 2013-14 as a figure of annual flow.

The emigrant population is almost exclusively (94 per cent) composed of men, and heavily concentrated (for 93 per cent) in the young adult ages 15 to 39 (Figure 3.24). As of yet, no significant outflow of people fleeing from insecurity can be identified, as for only 2 per cent of the emigrants cited this reason. However, since refugees often move with the entire family, these will often be missed out from a survey in the origin country.

Figure 3.24: Emigrants departing in the 12 months before the survey, by age, and by sex (in percentages)



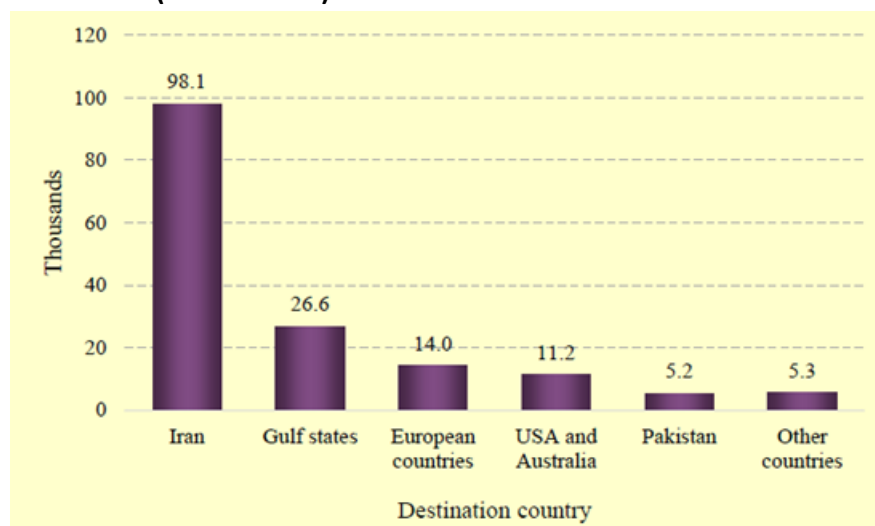
Source: ALCS 2013-14

It is difficult to compare the labour migration figures with the data of the earlier NRVAs, but the NRVA 2011-12 reported 107,000 international out-migrants within one year preceding the survey (i.e., a flow figure). Given that some 80 per cent of all emigrants of 14 years of age and over move abroad to find a job during one year preceding NRVA 2011-12, there was roughly 52,000 more international labour out-migration in ALCS 2013-14.

A notable shift has occurred in the importance of destination countries over years. Whereas Pakistan was the most important destination during the first decade of the millennium, now the large majority of emigrants (98,000, representing 61 per cent of the total) leave for Iran. This may most probably be attributed to Pakistan's recent policy change, which restricts Afghan citizens from entering and

residing in the country.⁴⁹ Another notable finding is the significant share of the Gulf states who received 27,000 Afghans, out of which the UAE accommodated 18,000 people.

Figure 3.25. Emigrants departing in the 12 months before the survey, by sex, and by country of destination (in thousands)

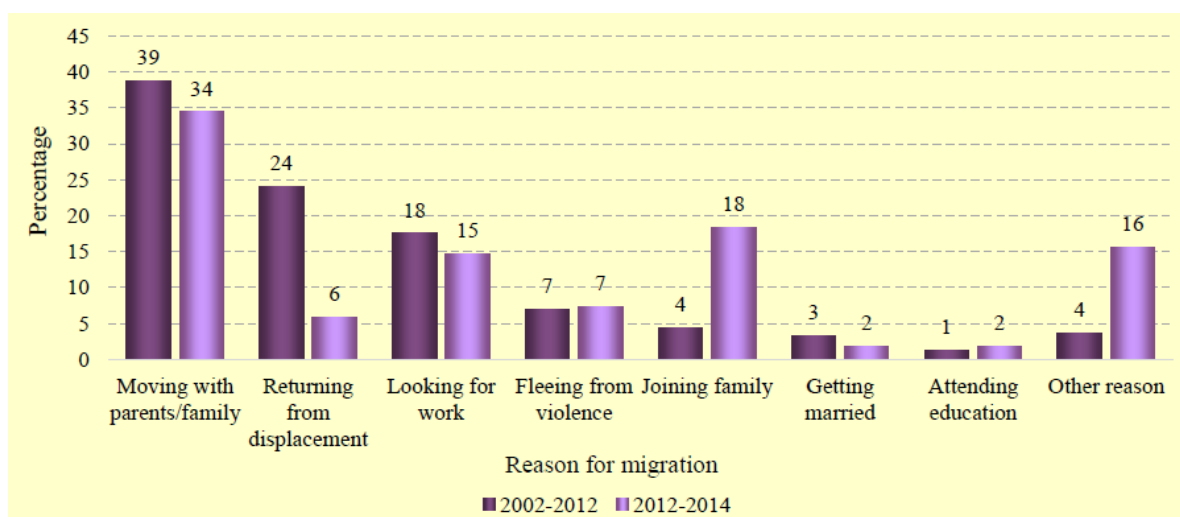


Source: ALCS 2013-14

While there is no additional data on the flow of labour migration, ALCS 2013-14 also reports stock figures of internal migration which count those who changed place of residence over years, and it is possible to compute the number of internal migrants within Afghanistan who moved in search of jobs. At least, 180,000 change place of residence in search of jobs during 2002-12 and 58,200 during 2012-14, summing up to 238,200 who moved within Afghanistan in search of jobs since 2002. Once again, the ALCS team considers the figure as underestimates because this does not include a significant subgroup of internal migrants 'Moving with parents or the family', which usually refers to dependent children who accompany their parents and dependent wives accompanying their husbands (Figure 3.26). Assuming that the category of dependent migrants could be distributed pro rata, the share of 'looking for employment' would even become as high as 29 percent for the period of 2002-12.

Figure 3.26: Internal migrants, by period of migration, and by reason for migration (in percentages)

⁴⁹ According to the Embassy of Pakistan in Kabul, they do not issue job visas to visa applicants; they issue 80 per cent for health purposes and 20 per cent for family visits.



Source: ALCS 2013-14

Pakistan

The Ministry of Overseas Pakistanis & Human Resource Development was created in July 2013 (merging the Ministry of Overseas Pakistanis and Ministry of Human Resource Development), with a view to promoting the export of Pakistani manpower abroad, thereby raising the living conditions of workers and securing them decent working conditions. The number of overseas workers in 2012 (registered with the Government) increased three-fold compared to that in 2003. Saudi Arabia and the United Arab Emirates accounted for 83 per cent of overseas employment (figure 3.27). In the past ten years, only 56 workers emigrating to Iran have been registered by the Bureau of Emigration and Overseas Employment, whereas no data is available for workers' emigration to Afghanistan - which mostly occurs informally.

Figure 3.27. The situation of overseas employment of the Pakistani workforce from 2003 to 2012



Source: Bureau of Emigration and Overseas Employment, Pakistan, 2013

No data could be obtained from Iran on immigration and emigration.

Chapter

4

Chapter summary: When two benchmark years are taken into consideration (2007 and 2012), Afghanistan has whether lost price competitiveness or caught up by Pakistan or Iran in the case of all the selected value chain crops/derivatives. The relative change in its currency against those of Pakistan and Iran has put Afghanistan in this disadvantageous situation. The eroded competitiveness has been translated into a trade pattern where Afghanistan's imports from these countries have increased. The positioning and trends in the global export markets matter, where neighbouring countries of Afghanistan are among the cost-competitive top contenders.

4. SECTOR ANALYSIS AND COMPETITIVENESS

This chapter analyses the overall competitiveness of each of the subsectors in Afghanistan, Pakistan and Iran - in the domestic, regional and global context. The analysis is based on the primary findings from the field; primary trade data sourced from the respective countries' customs departments; available secondary and online production and trade data to fill information gaps; and the review of existing relevant secondary literature and policy documents. Table 4.1 provides a comparative picture of the overall size of each of the subsectors and of the current level of employment within the value chains in the three countries. Table 4.2 summarizes the current sector competitiveness, while the following sections elaborate upon this situation.

Table 4.1: Size of the sectors studied in the countries under consideration

Source:

VC	Afghanistan		Pakistan		Iran	
	Production (tons) in 2013	Employment in 2012	Production (tons) in 2013	Employment in 2012	Production (tons) in 2013	Employment
Grape/raisin	354,000	1,306,000	66,244	81,000	2,046,420	n.a.
Wheat	2,461,000	8,945,000	24,211,400	34,777,000	14,000,000	n.a.
Rice	243,000	502,000	6,798,100	11,438,000	2,900,000	n.a.
Tomato	64,000	214,151	574,052	n.a.	6,174,182	n.a.
Potato	332,000	1,004,086	3,802,200	n.a.	5,560,000	n.a.

- PRODUCTION: Afghanistan from ALCS 2013-14; Pakistan and Iran taken from FAOSTAT. EMPLOYMENT: Afghanistan figures estimated by multiplying the number of farm households from ALCS 2013-14 by five workers per family, added by the field survey estimates of this study on input suppliers, importers, processors, wholesalers, retailers and exporters; Pakistan figures for grape/raisin, wheat and rice value chains estimated by the field survey of this study on input suppliers, importers, processors, wholesalers (includes importers/exporters) and retailers; No estimates could be made for Iran. All employment figures are rounded at thousand.

On the basis of the sectoral figures of Table 4.1, the information available from ALCS 2013-14 and the outcomes of the field survey documented elsewhere in this report, following observations can be

made on each of the sectors. Overall, the five value chains of Afghanistan upholds a significant number of jobs although significant proportion of them are underemployed or unpaid family workers. When compared to Pakistan and Iran, the Afghanistan's production size is very small except for the case of grape/raisin.

- Grape is the most popular crop grown on garden plots in Afghanistan. The sector maintains an estimated 1.3 million employment across the value chain including 173,000 farm households. Iran's production of grape and raisin is six time larger than that of Afghanistan while Pakistan's production remains very small.
- Wheat is the most widely cultivated crop in Afghanistan, supporting food security and farm income of nearly 47 per cent of the total households.⁵⁰ The wheat value chain as a whole is estimated to employ 8.9 million people. However, Pakistan's wheat sector is 10 times larger than that of Afghanistan while Iran's six times.
- Rice is the sixth most important crop in terms of production volume. The proportion of households growing rice is limited to 3 per cent of households (approximately 98,000 farm households) due to the fact that it requires irrigation and is an alternate crop for winter season when only one third of the farmers with irrigated land produce crops, but the whole value chain provides jobs to 502,000 individuals. Pakistan's rice sector is 28 times larger than that of Afghanistan, and Iran's 12 times.
- Tomato is tenth most important crop in terms of production volume. It is estimated that 214,000 are employed in the tomato value chain including 38,000 farm households growing tomato. Pakistan's tomato sector is 9 times larger than that of Afghanistan, and Iran's 97 times.
- Potato is the fourth largest product in Afghanistan after wheat, maize/sorghum and fodder in terms of production volume. The sector provides employment to an estimated 1 million individuals across the value chain including 195,000 farm households. Pakistan's potato sector is 12 times larger than that of Afghanistan, and Iran's 17 times.

⁵⁰ This includes 1,184,000 households cultivating wheat in irrigated land and 589,000 households cultivating wheat in rain-fed households.

Table 4.2: Summary of sector competitiveness among three countries

Country	VC	Relative price in 2007	Relative price in 2012	Change in price competitiveness	Remarks
Afghanistan	Grape	Lowest	Middle	Slight erosion against Iran	Losing in Pakistan market but still competitive in Afghanistan
	Raisin	Highest	Highest	Further erosion with widening price gap from others	Among the top 10 exporters, but struggling with a low growth. Not price competitiveness but doing well in high end market
	Wheat	Highest	Highest	Further erosion with widening price gap from others	Importer
	Wheat flour	Highest	Highest	Further erosion with widening price gap from others	Importer
	Rice	Lowest	Lowest but caught up by Pakistan	Eroded to come to near parity with Pakistan	Exports little, still competitive in domestic market
	Tomato	Lowest	Lowest but caught up by Iran	Eroded to come to near parity with Iran	Still competitive in domestic market and Pakistan
	Tomato paste	Lowest	Lowest but caught up by Iran	Eroded to come to near parity with Iran	Non-competitive at domestic market due to low product quality
	Potato	Middle	Highest	Eroded price competitiveness against the other two	Exports erratic
Pakistan	Grape	Highest	Highest	Further erosion with widening price gap from others	Exports little
	Raisin	Middle	Middle		Exports little
	Wheat	Middle	Lowest	Became most price competitive	
	Wheat flour	Lowest	Lowest	Remained most price competitive	3rd largest exporter. Increasing competition from Kazakhstan, the 2nd largest exporter.
	Rice	Middle	Near parity with the lowest	Gain and near parity with Afghanistan	4th largest exporter
	Tomato	Highest	Highest	Price gap with other two remains large	Pakistan's tomato exports remain small
	Tomato paste	n.a.	n.a.	n.a.	Pakistan's tomato paste exports remain at a negligible level
	Potato	Lowest	Middle	Eroded the price competitiveness against Iran	5th largest exporter
Iran	Grape	Middle	Lowest	Became most price competitive	
	Raisin	High	High	Maintains the price competitiveness	
	Wheat	Lowest	Middle	Lost price competitiveness against Pakistan	
	Wheat flour	Middle	Middle	Close to the lowest priced Pakistani flour	
	Rice	Highest	Highest	Significant reduction of price although remained highest among the three	Possible to come to price parity with the other two soon if the steep decline of price continues
	Tomato	Middle	Near parity with the lowest	Gained to come to near parity with Afghanistan	One of the large exporters

	Tomato paste	Highest	Near parity with the lowest	Significantly lowered price to come to near parity with Afghanistan	One of the top exporters. Competitive at Afghan market due to inferior product quality of Afghan tomato paste.
	Potato	Highest	Lowest	Significantly reduced price to become the lowest priced contender	

While comparing the competitiveness in each country, six major lenses were used for each of the subsectors. A brief description of each of the lenses, and the reasons why and how they have been used, follows here below:

- I. Wholesale price and trend.** The average wholesale price of the local production gives a strong indication of the subsector's competitiveness. Wholesale prices are thus converted into US dollars and compared in two benchmark years - 2007 and 2012 - to examine how prices changed in the past and to gauge the future trend.
- II. Current retail price mapping.** In order to understand the overall competitiveness of the value chain (VC) products and their derivatives, it is important to look at their retail prices in each domestic market - in the cases when products from these three countries compete with each other. Primary data for 2012 captured in major cities in all three countries were used for this analysis.
- III. Trade among the three countries.** The trends in the trade of selected value chain products and their derivatives provide an indication of the way in which the competitiveness situation has changed (or not) over time. The analysis is based on the data from the respective customs departments (ASYCUDA/PACCS). While Pakistan introduced PACCS (equivalent to ASYCUDA) and Iran ASYCUDA some time ago, Afghanistan only introduced ASYCUDA recently. It is gradually expanding the system to all its customs points. Consequently, it is impossible to analyse ASYCUDA data at the aggregate level in Afghanistan as the system was adopted in various customs points at different times - and a good number of custom points have yet to adopt it. For this reason, mirror data from Pakistan and Iran have been used. Pakistan customs data have been gathered for four consecutive years (2009-12). Iran's customs data were gathered for a comparatively longer period of time (2002-12).
- IV. Global trade scenario.** This particular lens assessed the overall competitiveness of the value chain crops and their derivatives in a global context. In order to do this, data over a longer period were required to analyze the trend. Customs data at aggregate level was either not available (as in the case of Afghanistan), or data for a longer and same period were not available at all (Pakistan data was available for only four years, while Iran data was available for a 10-year period. There was no data for Afghanistan, and recourse was made to mirror data). For all these reasons, it was necessary to find a single source providing data for the same period. Out of the possible online sources, only FAOSTAT could fulfill these requirements; hence, a time series analysis was conducted using the trade data of 2001-13 sourced from FAOSTAT.
- V. Local production and productivity.** The production trend also indicates the way in which a country responds to the changing competitive situation. Primary data from field investigation and secondary sources such as FAOSTAT were used to identify this trend. As far as the overall production data were concerned, FAOSTAT converged with other secondary sources such as CSO data.

VI. Farmers' perception of trends. While end markets and competition among products of different origins could provide an indication of competitiveness, the farmers' perception of the trends of three specific parameters - market demand, number of farmers and area coverage - also give a strong indication of where the subsector is heading (in both the short or medium term, if not in the long term). In assessing market demand, the farmers' points of view in each of the three countries focused only on their own produce. It is noted that farmers provided their own perception without having a broader knowledge or idea about the macro picture.

However, price is not the only determinant for competitiveness. Quality, lead time and other factors are also important parameters. Hence, these other parameters (other than price) are discussed in this chapter – and in the following chapters, whenever appropriate, to explain the competitiveness situation.

Summary of cross-country trade

The following table summarizes the trade value of the selected VC crops and their derivatives among the three countries, compiled from data in sections 4.1.3, 4.2.3, 4.3.3, 4.4.3 and 4.5.3. The respective customs department information has been used as the source. All the figures are in USD and for the year 2012. For some years, 2012 data was not available and at some point of time the data availability ended. These irregular years have been mentioned in parenthesis.

Table 4.3: Values of the selected VC and their derivatives traded among the three countries in USD in tons (2012)

VC	Afghanistan exports to Pakistan	Pakistan exports to Afghanistan	Afghanistan exports to Iran	Iran exports to Afghanistan	Pakistan exports to Iran	Iran exports to Pakistan
Grape	14,643,194	9,422	-	522,947	-	1,705,893
Raisin	185,476	-	243,984 (2007)	232,108	-	11,228,342
Wheat	-	17,289,073	-	2,645	-	-
Wheat flour	-	251,438,765	-	1,051,417	-	-
Rice	-	159,000,000	-	-	123,214,527	-
Tomato	2,310,290	3,401,129	-	-	-	2,205,588
Tomato paste	-	-	-	50,142,238	-	181,718
Potato	53,690	88,642,160	-	19,088,551	13,109,473 (2008)	577,277

NOTE: Bold-italics indicate the largest trade volume of the product.

It may be observed in table 4.3 that:

- Grapes: Afghanistan's exports to Pakistan are by far the most significant, while Iran also has a considerable volume of exports to Pakistan and Afghanistan.
- Raisins: Iran's exports to Pakistan are the largest, while Pakistan imports from the other two countries.

- Wheat and wheat flour: Pakistan's exports to Afghanistan are dominant in this sector (while Kazakhstan also exports to Afghanistan).
- Rice: Pakistan exports to both Afghanistan and Iran. The export values of Pakistani rice are by far the most significant among the trade of the five VC products.
- Tomatoes: While Pakistan's exports to Afghanistan constitute the largest volume of trade in this sector, Afghanistan's exports to Pakistan as well as Iran's exports to Pakistan are of similar value. This would indicate the seasonal trade of fresh tomatoes between these countries.
- Tomato paste: Iran's exports to Afghanistan are dominant in this sector.
- Potatoes: Pakistan's exports to Afghanistan are the most significant, followed by Iran's exports to Afghanistan.

Farm income from the VCs

Table 4.4 shows the average income of farm households derived from each of the value chain crops per jerib of land in 2012. Although rice in Afghanistan reached parity with Pakistan at this time, farmers have continued to grow it in areas with natural irrigation facilities and suitable agro-climatic conditions. It is for this reason that rice production in Afghanistan is concentrated in selected provinces in the northern region. The tendency to stick to cultivating the same crop despite eroding competitiveness would apply to grape and tomato in Afghanistan where the income of farmers per jerib of land is highest (USD 806 and 800, respectively).

The rice yield in Iran is very high, as is the producer price – leading to a considerable income for farmers. This conflicts with strong competition from Pakistani rice in the Iranian market, which is much cheaper. Controlled imports by the Iranian government to protect local production may address this.

Table 4.4: Income of farmers per jerib of land in USD (2012)

VC	Afghanistan	Pakistan	Iran
Grape	806	484	820
Wheat	148	157	96
Rice	307	301	1,790
Tomato	800	428	675
Potato	406	710	600

4.1 Grapes/Raisins

Section summary: *Iran further increased its price competitiveness in both fresh grapes and raisins and has become the price leader among the three countries. Afghan grape's lowest price has been caught up by that of Iran by 2012. Afghan raisins have traditionally been far more expensive than those of Iran and Pakistan, and the price gap increased during the 2007-2012 period. In the highly competitive regional market, Afghan grapes' growth potential would be limited unless it establish a cold chain. The regional raisins market is even more competitive, but Afghanistan would be better off by focusing on the high end market and avoid a price war with other lower priced neighbours. Building on the success of a few raisin exporters penetrating the high-end market would be a promising strategy. The Afghan grape yield is close to that of Iran's, while that of Pakistan is much lower. Farmers in Afghanistan witness declining demand of fresh grapes, but due to the increasing demand for raisins, they have expanded the production of grapes.*

Table 4.5: Varieties studied – Grapes

(bold-italics indicate the varieties used for the price graph)

Country	Variety	Commercial Features
Afghanistan	Taifi	Highly resistant and may be transported for long distances; this variety can therefore be exported to Pakistan.
	Kandahari	Highly tasty.
	Hussaini	Good taste, large fruit with seeds, highly perishable.
	<i>Shongulkhani</i>	<i>Good taste, seedless, good colour and shape, longer shelf life.</i>
Pakistan	Haita	Large fruit, attractive and bright colour, intact and relatively longer shelf life, but contains seeds.
	Sahibi	Round in shape, medium-sweet, medium-size, early supply, with seeds.
	Hussaini	Good taste, large fruit with seeds, highly perishable.
	<i>Thompson seedless (Sultana)</i>	<i>Seedless, attractive colour, oval shape, sweet taste and longer shelf life (also known as Sundarkhani/Shongulkhani), dominant supply and higher prices.</i>
Iran	<i>Sultana</i>	<i>Good taste, fairly dark colour, with relatively large fruits, seeded. Highly resistant and excellent for the export market, but this variety is mostly consumed internally.</i>
	Asghari	Cheaper in price and hence more frequently consumed as grapes. The Asgari grapes are mostly consumed and exported fresh.
	Fakhri	Good taste with larger fruits and seeds, mostly consumed and exported fresh. The fakhri variety is good for exports as it is durable compared to other Iranian varieties.
	Yaghouti	More competitively priced, there is a high demand for the black variety as grapes. This variety requires less water for cultivation, is relatively resistant and is better for short-distance exports.

Table 4.6: Varieties studied - Raisins*(bold-italics indicate the varieties used for price graphs)*

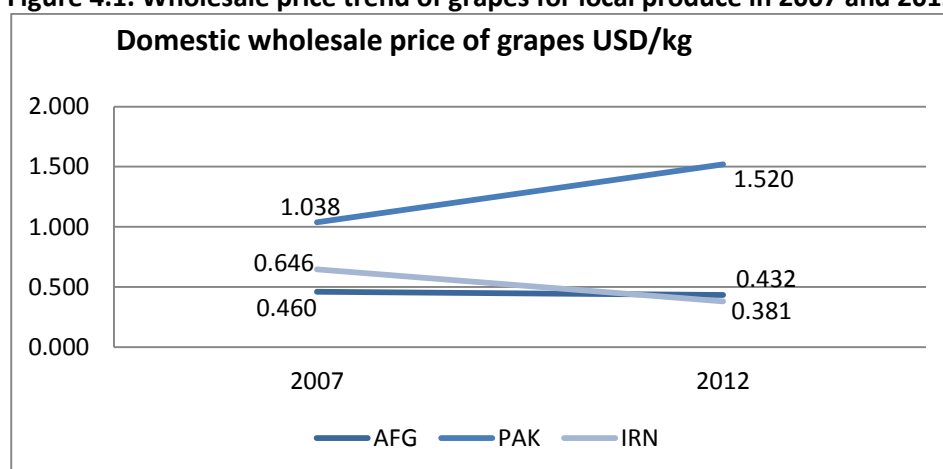
Country	Variety	Commercial Features
Afghanistan	<i>Shongulkhani</i>	<i>Good for high-quality raisins, greenish colour, high-priced, with a large demand in OECD markets.</i>
	Kishmishi	Mostly converted to raisins, cheaper in price. Major target market - the Russian Federation.
Pakistan	<i>Shongulkhani</i>	<i>Good for high-quality raisins, greenish colour, long oval shape, highest price, lower supply volumes.</i>
	Kishmishi	Mostly converted to raisins.

	Haita	Larger size, seeded, mostly dried and converted to monaqa (boiled and dried)
	Sahibi	Dark red to brown colour, used in processing industry, sweet and sour taste, lower prices and dominant in terms of supply volumes.
Iran	Kishmishi	Mostly converted to raisins and targeted to low-value markets such as the Russian Federation.
	<i>Bidena (seedless)</i>	<i>Also known as Sundarkhani/Shongulkhani/Sultana. Seedless, good colour, shape and taste, longer shelf life. It is one of the main varieties of grapes used in processing raisins in Iran. Bidana grapes are highly consumed in Iran, and raisins produced from Bidana are exported to other countries.</i>

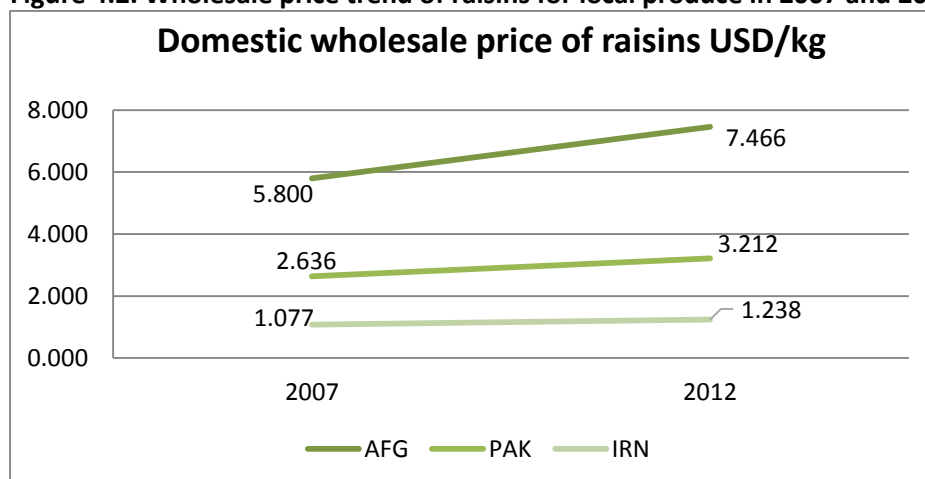
4.1.1 Wholesale price and trend

The domestic wholesale price of locally produced grapes in Afghanistan was 0.460 USD/kg in 2007, and 0.432 in 2012; 0.646 USD/kg in 2007, and 0.381 USD/kg in 2012 in Iran; and 1.038 USD/kg in 2007, and 1.520 USD/kg in 2012 in Pakistan - for the same or equivalent quality of grapes. It is evident that Iranian grapes increased price competitiveness during this period and dropped below Afghan grape price parity (figure 4.1).

Figure 4.1. Wholesale price trend of grapes for local produce in 2007 and 2012



Although raisins are a major derivative of grapes, the wholesale price trend shows a somewhat different picture from that of grapes. For all countries, there is an increasing price trend, while Iran has the lowest unit price followed by Pakistan. Prices in Afghanistan have always been higher than those of the other two countries, and the trend continues. The domestic wholesale price of locally produced raisins in Afghanistan was 5.80 USD/kg in 2007, and 7.466 in 2012; 2.636 USD/kg in 2007, and 3.212 USD/kg in 2012 in Pakistan; and 1.077 USD/kg in 2007, and 1.238 USD/kg in 2012 for Iran. It is apparent that Afghanistan was the least price-competitive in 2007, and this competitiveness was further eroded in 2012 (figure 4.2).

Figure 4.2. Wholesale price trend of raisins for local produce in 2007 and 2012

4.1.2 Retail price mapping on the domestic market

Figure 4.3 shows the price of grapes in various major cities in the three countries in 2012. Although there are different varieties of grapes, and the price varies according to the variety and also quality, the figure gives an overall view of the situation. During the period from August to October when Afghan grapes are harvested, neither Iranian nor Pakistani grapes are available on the market. In Kabul, market Iranian grapes (Taifi variety) are found in December and January at the price of USD 1.65 per kg when Afghan fresh grapes are no longer available. However, all three countries' grapes are available and compete with each other on the Pakistan market and prices can be competitive. In terms of the availability of fresh grapes on the Pakistan market, the earliest local grapes arrive in July and August, Afghan fresh grapes arrive in August and September, and Iranian grapes arrive from September to November. Price-wise, Iranian grapes are the lowest - followed by Afghan ones in most cities. Consequently, when Iranian grapes arrive on the Pakistan market during the September-November period, the supply of Afghan grapes gradually diminishes. The eroded price competitiveness of Afghan grapes referred to in previous section also explains this. In Iran, no grapes are imported and the retail price is the lowest in Razavi Khorasan and Isfahan, two major grape-producing areas.

As with the situation of grapes, the markets in Afghanistan and Iran are both supplied by locally-produced raisins and face little competition with regard to the price of raisins of similar quality or variety. As a result, there are only limited imports in these two countries. Hence, a comparison on price competitiveness can be made on the Pakistan market. In all the major cities, Iranian raisins are the most price-competitive (in Lahore, raisins of Pakistani and Iranian origin have a very close price range). Although Pakistan produces only a small amount of grapes compared to Afghanistan, its raisins are price-competitive compared to Afghan ones in some areas such as Karachi, Quetta and Lahore. Interestingly in Peshawar, there is a very scarce supply of Pakistani raisins and Iranian and Afghan raisins compete with each other.

Figure 4.3. Fresh grapes retail price (USD per kg) in major cities in Afghanistan, Pakistan and Iran, 2012

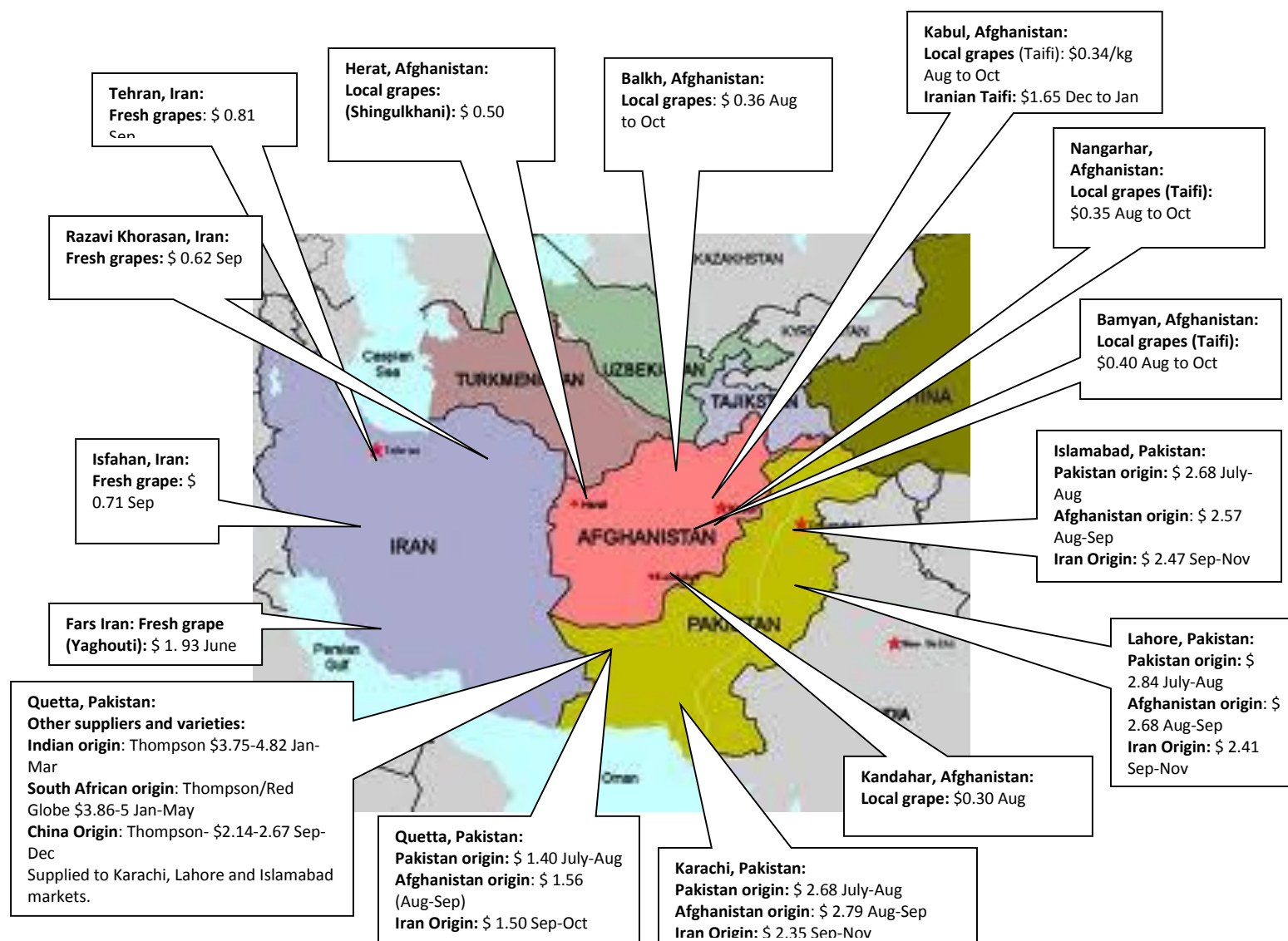
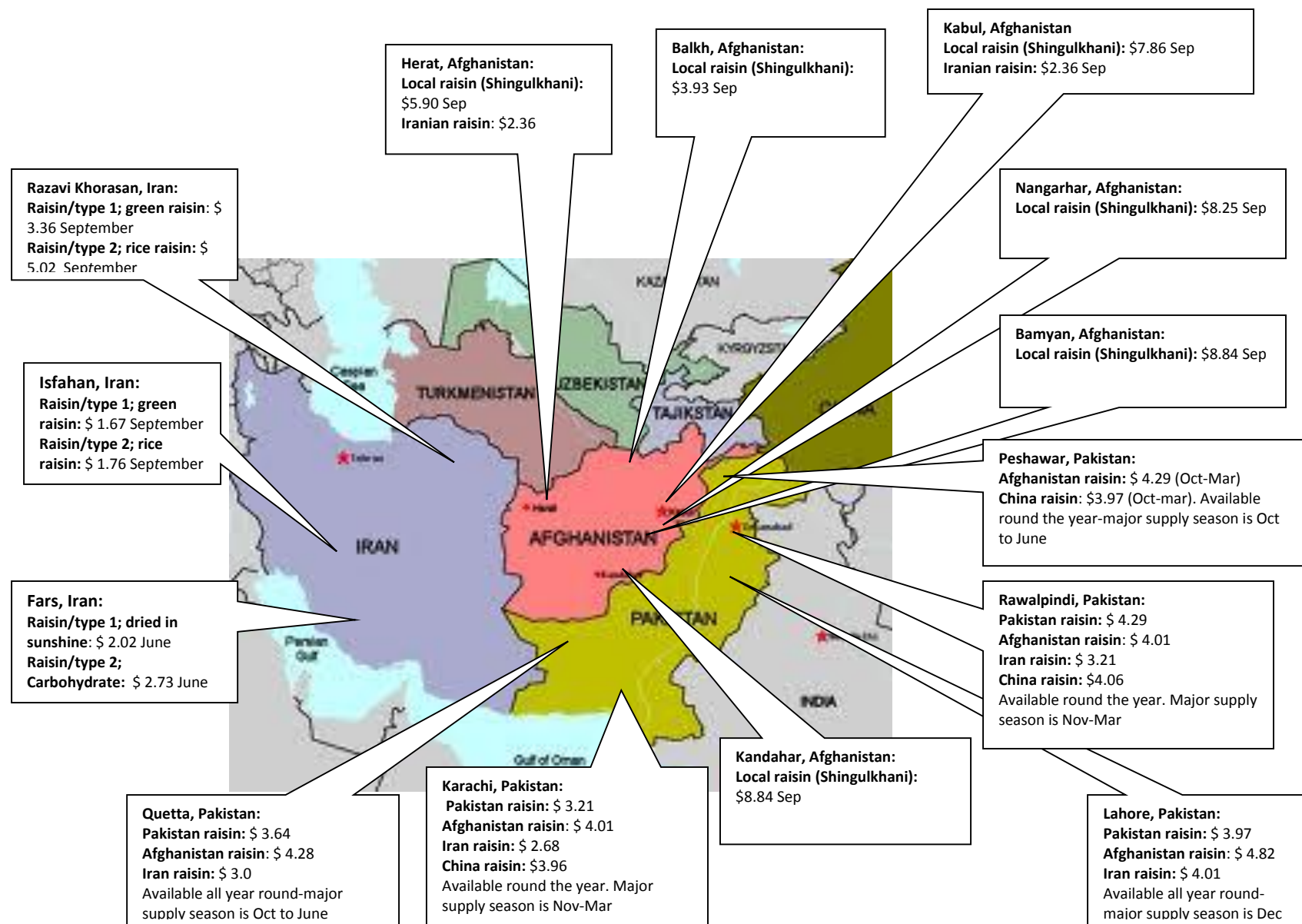


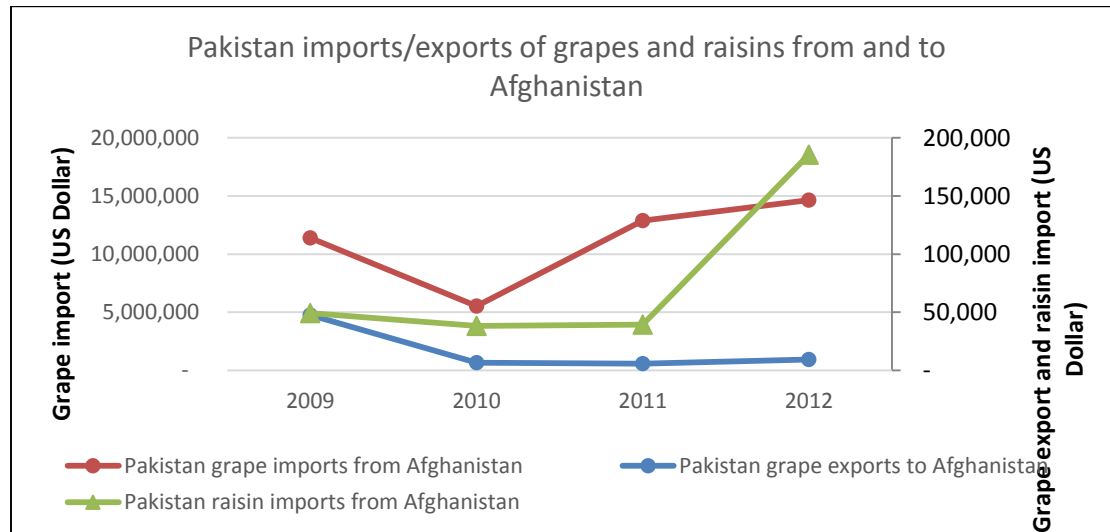
Figure 4.4. Raisins retail price (USD per kg) in major cities in Afghanistan, Iran and Pakistan, 2012



4.1.3 Trade among the three countries

Customs data from Pakistan shows that its grapes imports from Afghanistan have been on the increase since 2010, while Afghanistan's imports from Pakistan are on the decrease; however, in terms of value the former is much higher than the latter. Pakistan's raisins imports from Afghanistan also increased in 2012 (figure 4.5).

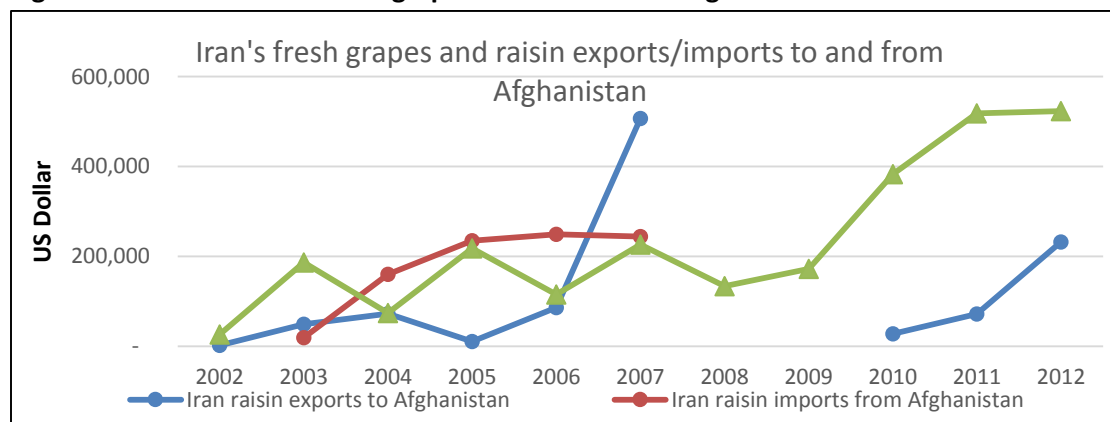
Figure 4.5. Pakistan's trade of fresh grapes and raisins with Afghanistan



Source: Pakistan Customs data

In the case of trade with Iran, Afghanistan shows an increasing volume of imports for fresh grapes and raisins, although they are much lower in terms of volume. On the other hand, Iran used to import raisins from Afghanistan until 2007. The eroded competitiveness of Afghan grapes and raisins matches with these trade patterns (figure 4.6).

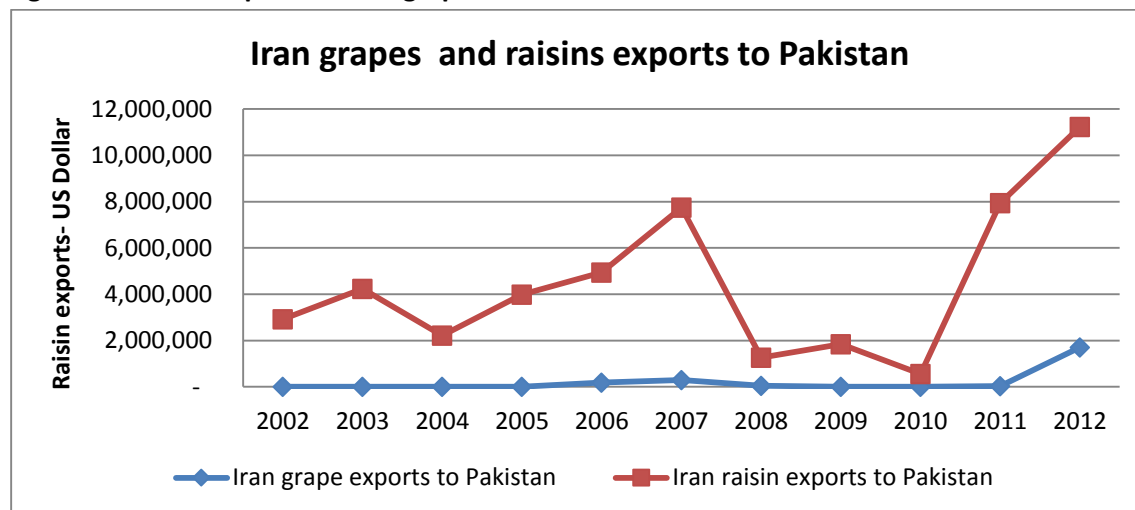
Figure 4.6. Iran's trade of fresh grapes and raisins with Afghanistan



Source: Iran Customs Data

Pakistan imports both fresh grapes and raisins from Iran. Although its raisins exports have followed an erratic pattern, they started to climb rapidly after 2010 (figure 4.7). A similar situation may be seen with respect to the imports of fresh grapes, which have risen since 2011.

Figure 4.7: Iran's export of fresh grapes and raisins to Pakistan



Source: Iran Customs Data

From the overall trade pattern in relation to exchange rate fluctuations, it may be seen that Pakistan is a significant importer of both grapes and raisins from the other two countries. Despite the fact that the pattern of Iran's exports to Pakistan is erratic, there is an increasing trend of exports of both raisins and grapes. Interestingly, Afghanistan also experienced a positive growth of exports of fresh grapes to Pakistan during this period, but this may no longer be the case now as Iranian grapes have dropped below the Afghan grapes price parity (figure 4.1).

4.1.4 Global trade scenario

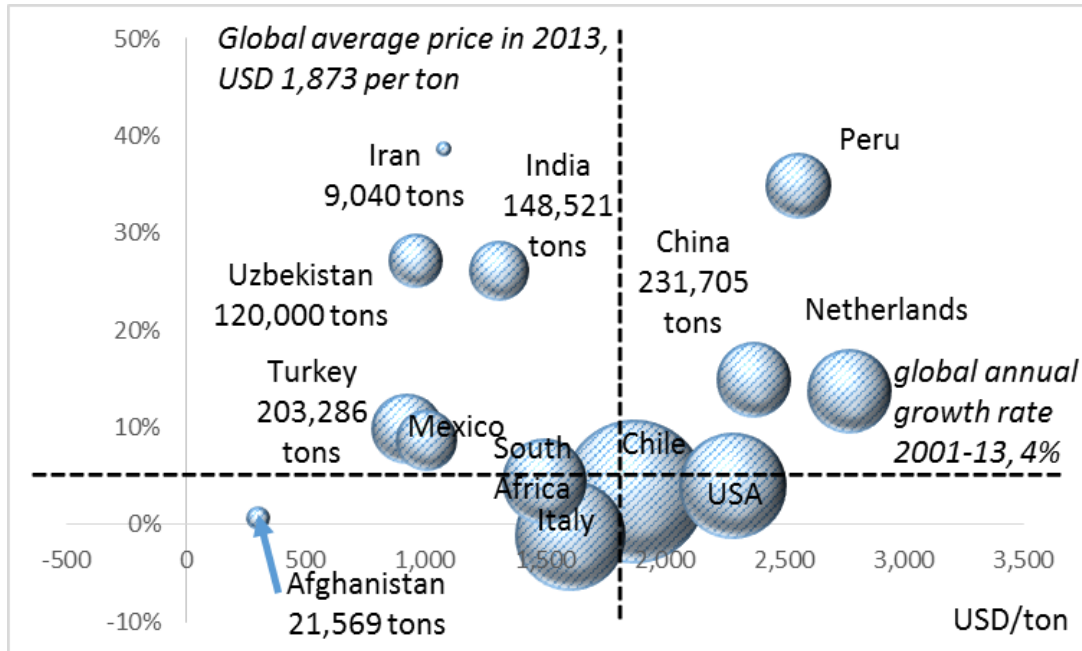
Figure 4.8 shows the positioning of the top exporting countries plus Afghanistan and Iran. It shows the unit export price in 2013 (X axis), average annual growth rate in terms of volume for 2001-13 period (Y axis) and the volume of exports in 2013 (bubble size) of .

It is notable that four countries around Afghanistan are one of the top 10 grape exporters: China, Turkey, India and Uzbekistan. Among them, Turkey, India and Uzbekistan are exporting at a lower than global average price, and, including China, they are growing much faster⁵¹ than the very top exporters such as Chile, Italy, USA and South Africa which grew at the same pace of the global growth rate (4 per cent) or less since 2001. Fresh grape exports from Iran and Afghanistan remain much smaller than the others plotted in Figure 4.8. Iran grew very fast from 1,132 ton exported in 2001 to 9,040 ton in 2013 while

⁵¹ Outlier year data were excluded from the calculation of the average annual growth rate of India, Uzbekistan, Afghanistan and Iran.

Afghanistan's export level dropped from 40,000 ton in 2001 to 21,569 ton in 2013. Pakistan's export volume is negligible, with only 7 ton export in 2013.

Figure 4.8. Regional and global competitiveness in the grapes market

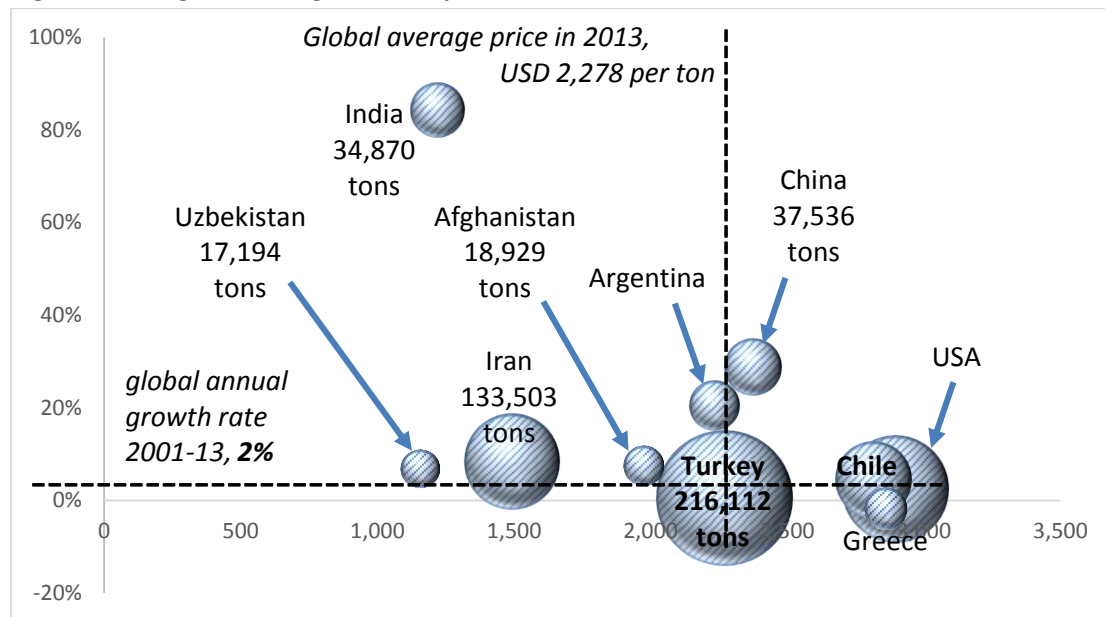


Source: Elaborated from the FAOSTAT data

Afghanistan targets a very low-end market (mainly Pakistan) with a low export price. This has resulted in a negative growth during the period under review as Afghanistan has failed to penetrate other markets. It may be seen from figure 4.1 that Iran reached price parity with Afghanistan by 2012 and gained further competitiveness. It is therefore likely to gradually take a larger market share in Pakistan - to the detriment of Afghanistan.

Iran targets both a high-end and a low-end market (such as Pakistan), and it adds value by storing fresh grapes to sell at a later time. It focuses more on further value addition by processing the grapes to raisins, and hence its export volume of fresh grapes is very small. Pakistan's small exports of grape has been shrinking further, which is explained by the fact that due to its low production, it is a net fresh grapes importer.

In a current competitive situation, it may be concluded that in a fresh grapes export market, Iran with its price competitiveness has the potential to grow further (although it will have to see touch competition against other low cost exporters such as Turkey and Uzbekistan), while Afghanistan and Pakistan do not - unless Afghanistan establishes a cold chain to penetrate higher-end markets, or Pakistan increases its production sufficient enough for exports. However, meeting the above conditions requires an extensive transformation of the local industry and much investment.

Figure 4.9: Regional and global competitiveness in the raisins market

Source: Elaborated from the FAOSTAT data

When it comes to the global raisins market, some of the leading exporters are the same as the lead exporters of the fresh grapes as Figure 4.9 indicates. Turkey is the market leader here, followed by the United States, Iran and Chile. The global annual growth rate during the period 2001-13 was around 2 per cent. Again the neighbouring economies of Afghanistan are the significant players such as Iran, China, India and Uzbekistan while Afghanistan itself is one of the top 10 exporters. Afghanistan's raisin exports peaked in 2009 (32,814 tons), but the latest figure of 2013 (18,929 tons) is not much different from the level of 2001 (14,400 tons). Iran is a major raisin exporter of the region with an average annual growth rate of 8 per cent, and its export price per ton (USD 1,493) is much lower the global average price (USD 2,278 per ton) of 2013. Among other regional countries, China and India exports a significant amount of raisins (37,536 tons and 34,870 tons in 2013, respectively) with a very high growth rate (29 per cent and 84 per cent,⁵² respectively). Uzbekistan's raisin exports are at a similar level to that of Afghanistan, though its average export prices are much lower. Pakistan is at present nowhere in the picture, with a declining trend of its small exports, recording only 37 tons of exports in 2013.

Despite the fact that Afghanistan raisins have lost its price competitiveness further (figure 4.2), its struggle is limited to the popular market where it has to compete against other low cost exporters such as Iran. In contract, a few Afghan exporters penetrated the high-end market fetching a higher unit price, thereby compensating the probable loss in exports to commoditized markets.

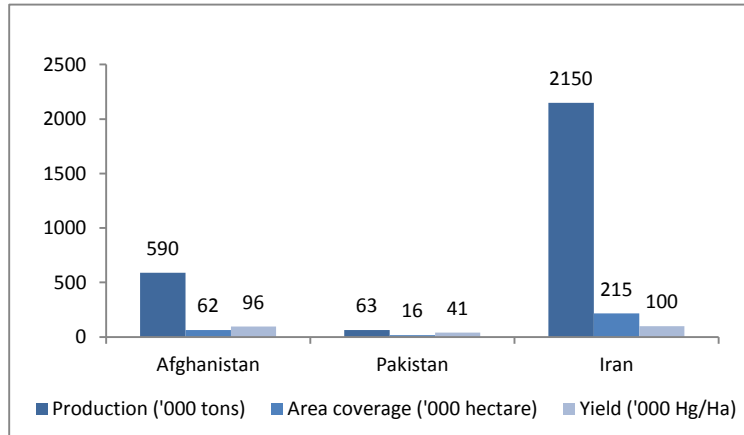
From the above analysis, it may be concluded that, given the very competitive situation of the region around the three countries with several very strong raisins exporters, Afghanistan raisin sector would be better off by focusing on the high end market and avoid a price war with other lower priced neighbours.

⁵² The calculation of the annual growth rate of India excluded years prior to 2008 when the export amount was negligibly small.

4.1.5 Local production and productivity

Iran is by far the largest grape-producing country among the three countries under review in this report. Afghanistan grows a significant amount of grapes, but Pakistan only a limited quantity. The yield is almost the same for Afghanistan and Iran - but much less for Pakistan (figure 4.10).

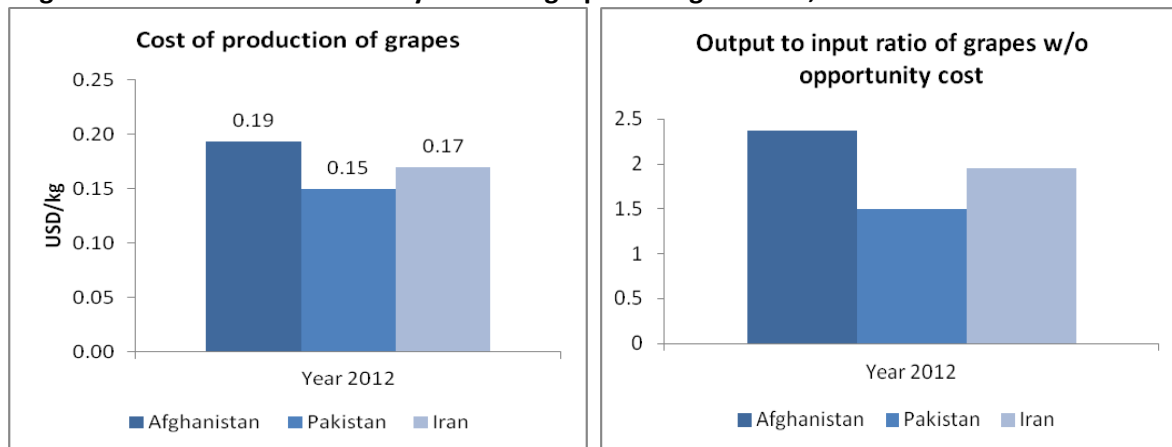
Figure 4.10: Production, area coverage and yield comparison of grapes in 2012

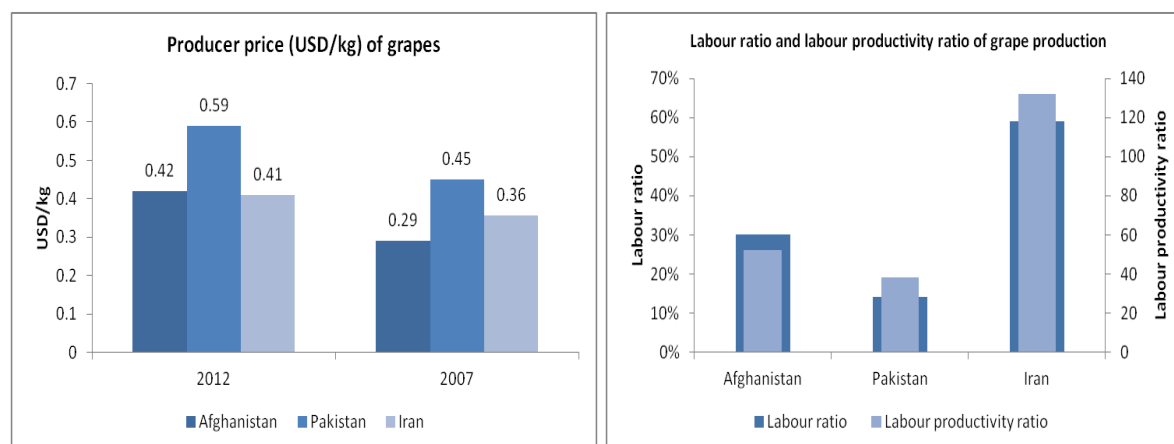


Source: FAOSTAT

A higher yield does not necessarily lead to a higher income and competitiveness against imports if the production costs are much higher and the output price is not adjusted accordingly. It is also important to examine the way in which the cost of production changed in 2012 compared to that in 2007 to understand how the other external factors influenced the price (figure 4.11).

Figure 4.11. Production efficiency status of grapes in Afghanistan, Iran and Pakistan

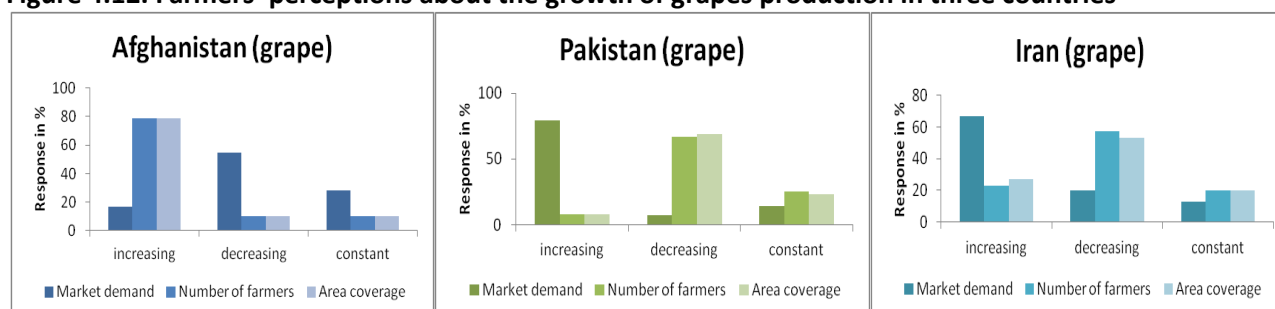




As may be seen from figure 4.11, the cost of grape production is the highest in Afghanistan, followed by Iran and Pakistan. Afghan farmers have the highest output/input ratio, followed by those in Iran, which means that they enjoy the highest profitability. This can be explained by the fact that farmers in Afghanistan have to incur fewer transaction costs than the others (they are mostly involved in farm gate selling). It may be observed that the producer price increased significantly after 2007. Both the labour and labour productivity ratios are the lowest in Pakistan and the highest in Iran – implying that of the total input costs, the labour cost is the lowest in Pakistan and the highest in Iran. Similarly, Iran produces the highest amount of grapes per working day and Pakistan the lowest.

4.1.6 Farmers' perceptions

Figure 4.12. Farmers' perceptions about the growth of grapes production in three countries



In the case of grapes, the farmers' general perceptions are interesting (figure 4.12). The majority (55 per cent) of farmers refer to a declining trend in grape demand. In contrast, more than three-quarters of the farmers (79 per cent) state that both the number of farmers and extent of area coverage are increasing. This seems contradictory and requires closer examination. Triggered by a higher demand for raisins (processed grapes), more farmers have taken up grapes farming and/or expanded their land by replacing other crops (such as wheat) wherever possible. This has given a boost to grape production - but as grapes exports are mostly centred on Pakistan, their potential for expansion is limited. As a result, farmers have witnessed a declining demand for grapes. Consequently, rather than selling fresh grapes, they have

tended to increase their processing of grapes to produce raisins. Although the demand for grapes is growing in Pakistan, the overall local production growth seems negative. Indeed, local grape production faces fierce competition from imports. Iran's response is again interesting. Despite the fact that there is an increase in demand, the majority of farmers responded that their numbers were declining and the area coverage was decreasing. Field observation nevertheless shows an increase in recent years. It is noted that Iranian grape production faced a setback 2006 and this continued in 2007 (FAOSTAT). In the following year, production started to increase again - though it has not yet reached the volume attained in 2005. As grapes/raisins are an export-based industry in Iran, the first round of sanctions imposed by the international community in 2006 might have been a contributing factor to this setback.

4.2 Wheat and wheat flour

Section summary: Afghanistan is surrounded by Turkey, Kazakhstan and Pakistan, the top three global wheat flour exporters. Afghanistan's wheat and wheat flour have traditionally been more expensive than those of Pakistan and Iran, and the price gap widened during the 2007-2012 period. This has been translated into an increasing volume of imports from Pakistan and Kazakhstan (particularly in the northern part of the country). The cost of production is the lowest in Pakistan among the three countries studied, which has also a much higher yield. The Afghan wheat yield is much lower, though overall production increased significantly during the 2002-12 period, due to an increased area coverage.

Table 4.7: Varieties studied - Wheat
(**bold-italics indicate the varieties used for price graphs**)

Country	Variety	Commercial Features
Afghanistan	Safeed Dana	Commercial features of the Afghan wheat varieties are the same – they are differentiated for agronomic reasons only. They are all referred to as “local wheat” by the markers and sellers, and command the same price.
	Gul	
	Moqaweem	
	Surkh Khosha	
	Surkh	
	Surkh Khosha Lalmi	
	Wax	
Pakistan*	Super fine flour - maida	Lower content of bran, white powdery, sticky dough, higher price.
	<i>Fine flour - atta</i>	<i>Medium content of bran, creamy brown colour, dominant in terms of market share, average price.</i>
	Whole Wheat	Full content of bran, brown in colour, lower price.
Iran**	Kascogen	More wind, cold and pest resistant and high yielding.
	Falat	Requires less irrigation.
	Atila	Quick growth.
	Shirudi	Requires less irrigation.
	Dorom	High yield.

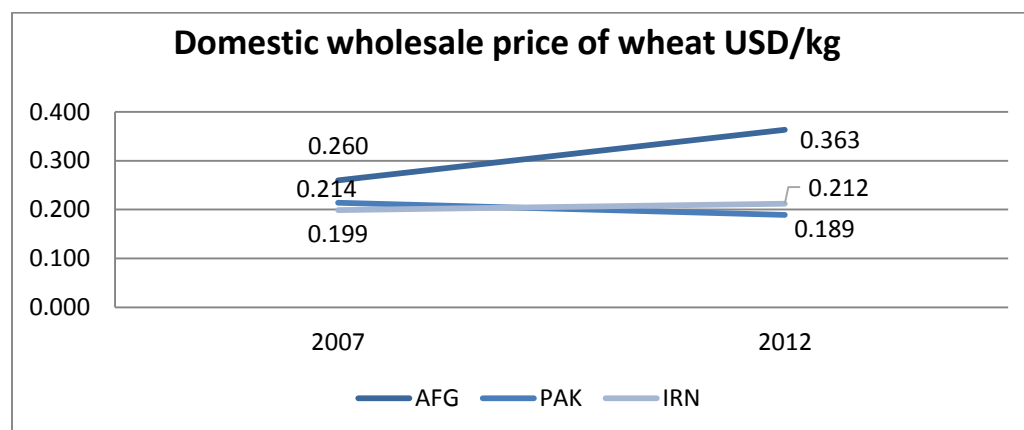
* The commercial features of the *Pakistani* wheat flour depends on the bran content, which may vary from 0 to 16 per cent – the lower the bran content, the higher the price. Major milled products include “maida or super fine flour” (which is a 70-75 per cent extracted flour used for loaf bread and other products, notably bakery items) and “atta – fine flour” (which is 80-85 per cent extracted flour used for normal breads). On this account a ton of milled wheat produced 34 per cent fine flour, 48 per cent super fine flour – maida - and 13 per cent bran.

**Commercial features of the Iranian wheat varieties are the same – they are differentiated for agronomic reasons only.

4.2.1 Wholesale price and trends

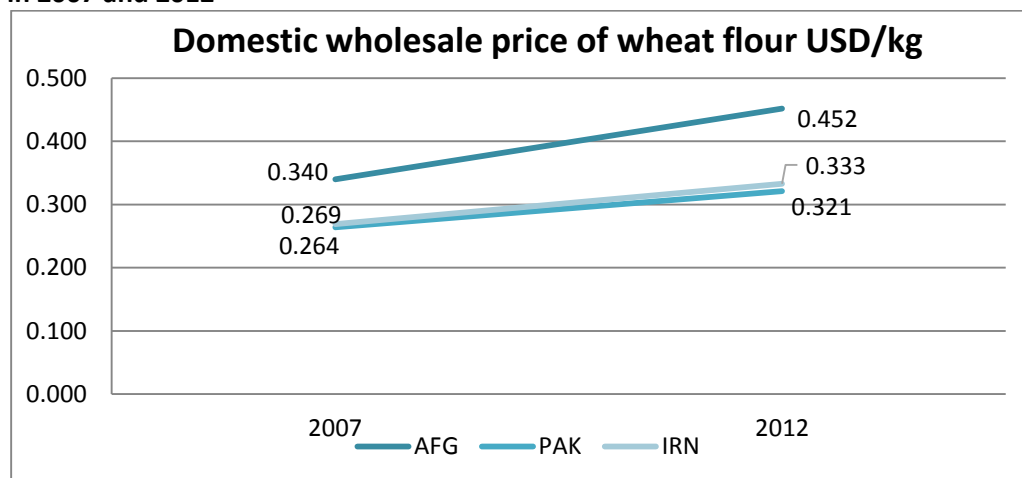
The domestic wholesale price of locally produced wheat in Afghanistan was 0.260 USD/kg in 2007 and 0.363 in 2012; 0.214 USD/kg in 2007 and 0.189 USD/kg in 2012 in Pakistan; and 0.199 USD/kg in 2007 and 0.212 USD/kg in 2012 in Iran (figure 4.13). It is clear that Afghan wheat was not price-competitive in 2007 and it became even less so by 2012. On the other hand, Pakistani wheat gained further price competitiveness and dropped below the price parity with Iran, becoming the most price-competitive by 2012.

Figure 4.13. Wholesale price trend of wheat for local produce in Afghanistan, Iran and Pakistan in 2007 and 2012



In the case of wheat flour, the scenario is somewhat similar. The domestic wholesale price of locally produced wheat flour in Afghanistan was 0.340 USD/kg in 2007 and 0.452 in 2012; 0.264 USD/kg in 2007 and 0.321 USD/kg in 2012 in Pakistan; and 0.269 USD/kg in 2007 and 0.333 USD/kg in 2012 in Iran (figure 4.14). It is clear that Afghan wheat flour was not price-competitive in 2007, and it was even less so in 2012. However, in the northern region of Afghanistan, Pakistani wheat flour faces severe competition and hardly exists. This scenario is not the same in bordering areas such as Jalalabad or Kabul. This indicates that transportation costs are a strong determinant of overall competitiveness. The retail price mapping in section 4.2.2 also explains this situation.

Figure 4.14. Wholesale price trend of wheat flour for local produce in Afghanistan, Iran and Pakistan in 2007 and 2012



4.2.2 Current retail price mapping

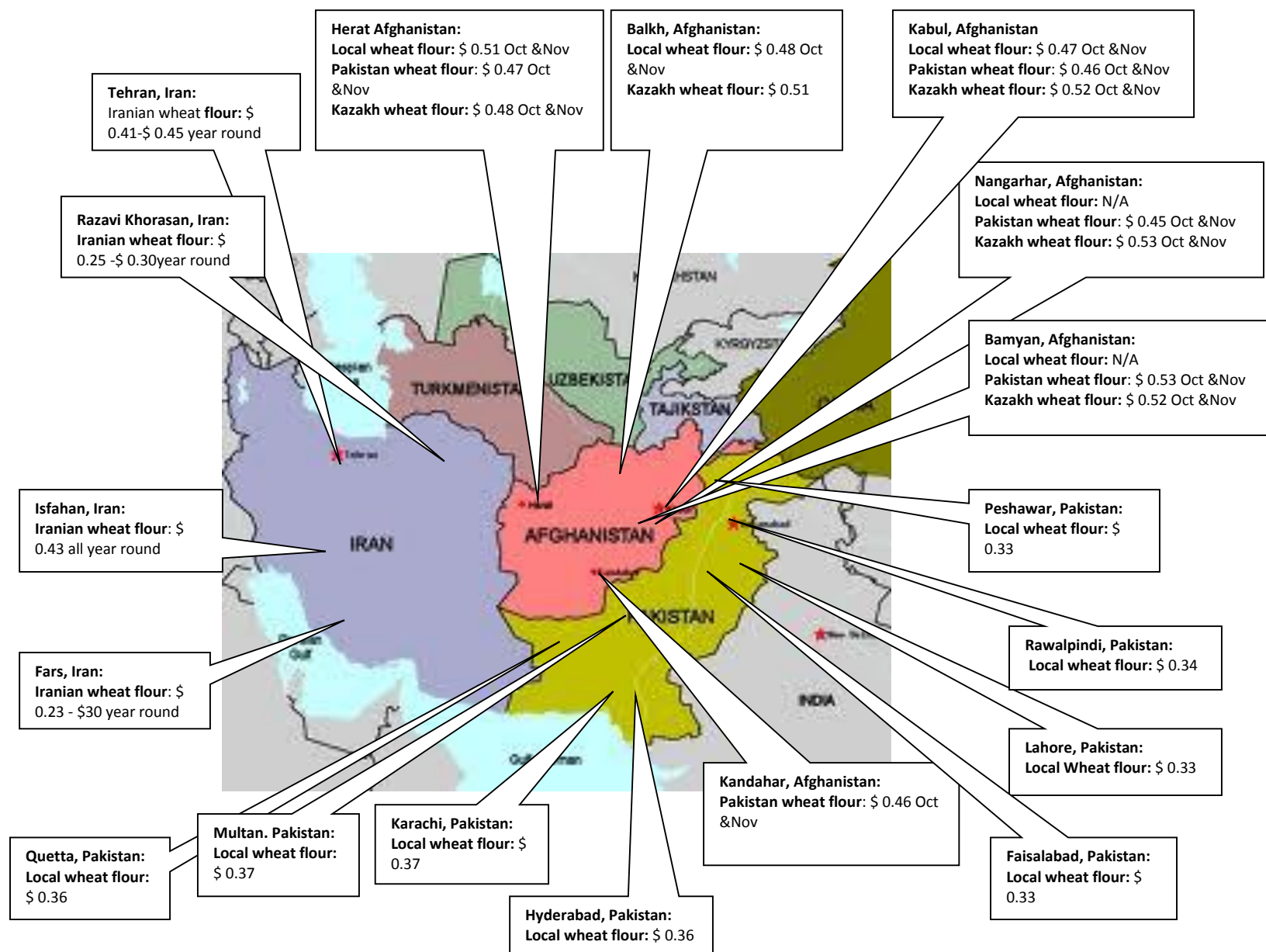
Wheat flour, as opposed to wheat, is mostly traded at retail in the three countries under consideration in this report. Wheat flour retail prices have thus been analysed in the respective domestic markets (figure 4.15).

Among the three countries, Afghanistan is a net wheat and wheat flour importing country. The wheat flour on the retail market therefore came from various countries of origin. In Balkh, there are a number of wheat processing factories and Afghan wheat flour is the cheapest. Interestingly, Pakistani wheat flour is hardly available on this market, although Kazakh wheat flour is sold. In Herat, three major types of wheat flours are available - local production, Pakistani and Kazakh; Pakistani wheat flour is the cheapest, followed by the Kazakh product. As Kandahar brings in a considerable amount of wheat flour from Pakistan, it reaches the Herat market easily. Given the proximity of Nangarhar to Peshawar, the Pakistani wheat flour found there is the cheapest and there is hardly any local flour on the market. A similar picture was observed in Bamyan, although Kazakh wheat flour was found to be cheaper than that from Pakistan. The Kabul market has three major types of wheat flour – of local, Pakistani and Kazakh origin. Pakistani flour is the cheapest, followed by local ones.

As Pakistan produces a large amount of wheat, the retail price of wheat flour is much lower in all the major cities and no imported wheat flour was observed as such. The retail price varies from USD 0.33 to USD 0.37, which is far below the retail prices of all types of wheat flour found in the other two countries.

Iran also produces a large amount of wheat. The prices vary from province to province based on the production volume in respective areas.

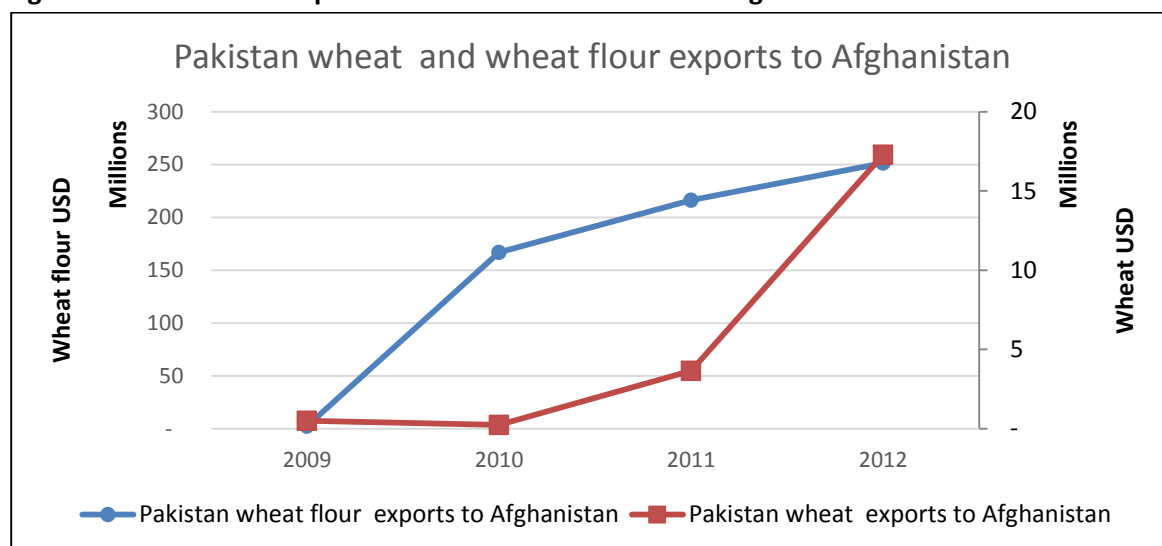
Figure 4.15. Wheat flour retail prices (USD per kg) in major cities in Afghanistan, Iran and Pakistan



4.2.3 Trade among the three countries

Pakistan customs data show that both wheat and wheat flour exports to Afghanistan are on the increase, although the value of exports of wheat is much less compared to that of wheat flour (figure 4.16).

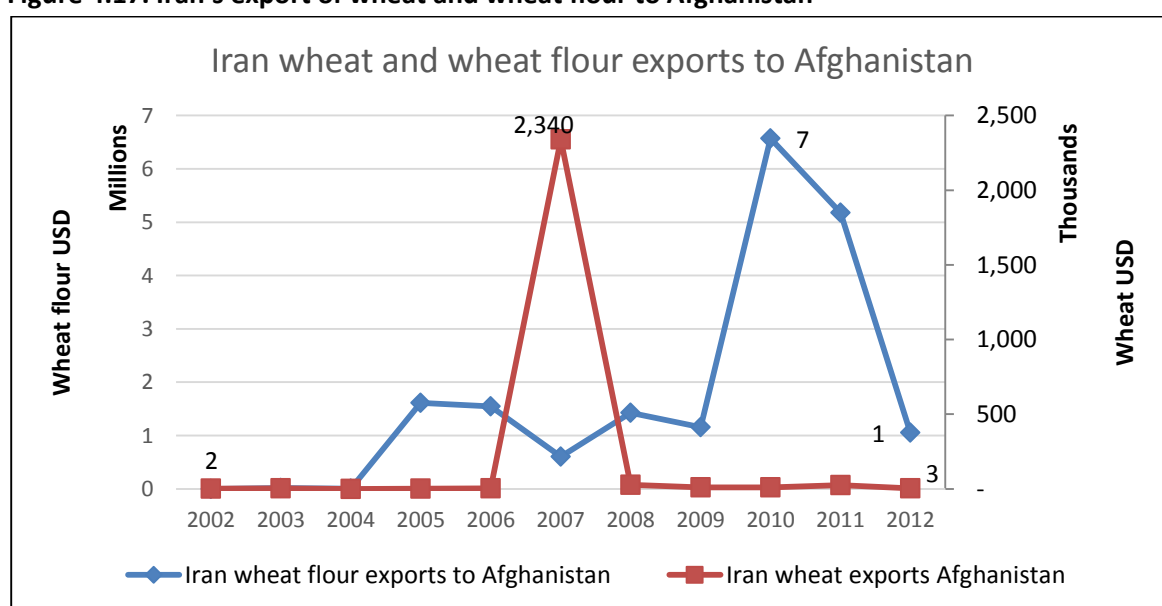
Figure 4.16. Pakistan's export of wheat and wheat flour to Afghanistan



Source: Pakistan Customs data

Iranian customs data show an erratic trend of wheat flour exports to Afghanistan, which reached a peak in 2010 and then kept falling after this point. When looking at the export trends of both Pakistan and Iran to Afghanistan, it may be concluded that Iran is gradually losing its market share while Pakistan is gaining. The price competitiveness situation shown in figures 4.13 and 3.14 explain this.

Figure 4.17. Iran's export of wheat and wheat flour to Afghanistan



Source: Iran Customs data

Interestingly, Iran exports only a small amount of wheat flour to Pakistan according to Iranian customs data (USD 13,905, USD 43,507 and USD 4,320 in 2010, 2011, and 2012, respectively). These same customs data record no imports of wheat or wheat flour from either Pakistan or Afghanistan. However, Iran imports wheat grains periodically in large quantities to meet its domestic demand. It also imports wheat flour occasionally, but the value is very little compared to that of the import of wheat grains.

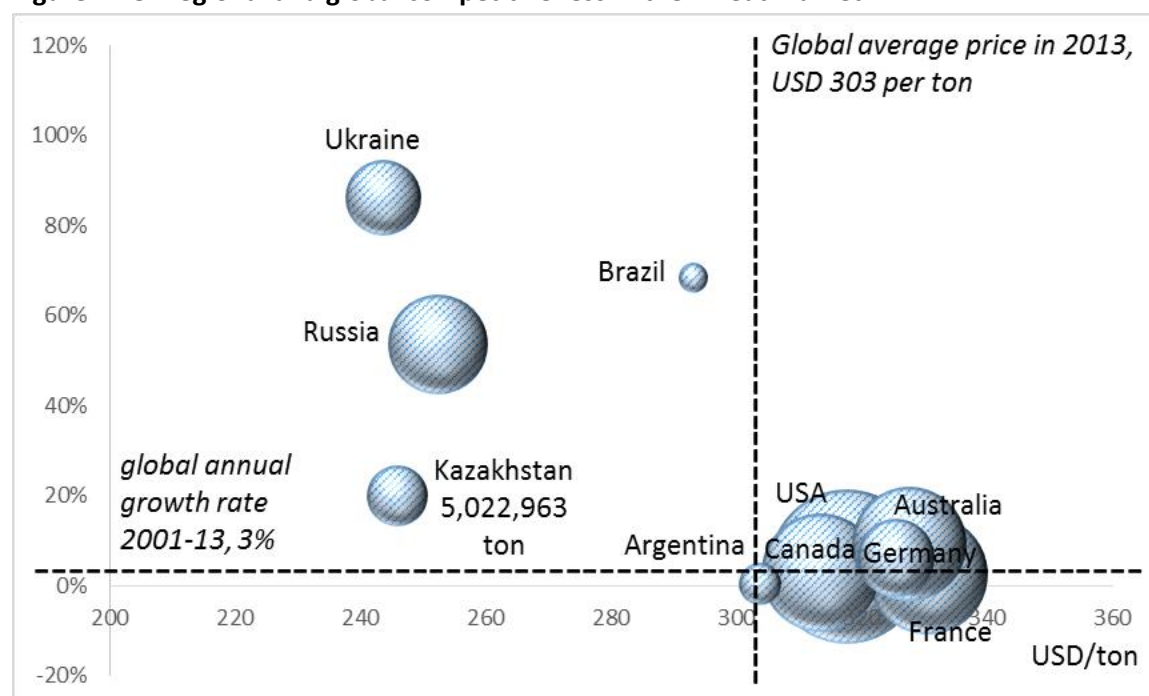
It may be seen from this discussion that low domestic production in the face of increasing demand is forcing Afghanistan to import wheat and wheat flour from other countries. As far as Pakistan and Iran are concerned, the latter seems to be losing its export-competitiveness with respect to Afghanistan, while Pakistan is continuing to gain it.

4.2.4 Global trade scenario

Wheat

Figure 4.18 shows the global top 10 exporters of wheat. The clustering pattern clearly indicates that those with less than global average price are fast growing such as Russia, Ukraine, Kazakhstan and Brazil.⁵³ It is important to note that Kazakhstan is one of these countries as it influences Afghanistan market. Pakistan and Iran also export wheat, but their export volume is small and fluctuate a lot. Afghanistan does not export any wheat.

Figure 4.18. Regional and global competitiveness in the wheat market



Source: Elaborated from FAOSTAT data

⁵³ Outlier years with extremely low volume of exports were excluded from the calculation of the average annual growth rate for Brazil.

Wheat flour

Wheat is traded mostly as flour in Afghanistan, hence its competitiveness is more relevant than that of wheat grain. The regional market of wheat flour is even more crowded than that of wheat grain as the position of the exporters in this region is in the very top of the global market with a high rate. Pakistan used to be the runners-up after the Europeans (e.g., France, Belgium and Germany) and US in the global wheat flour export market in early 2000s, and remains in the list of top five exporters in recent year, recording 669,962 tons flour exports in 2013. Turkey and Kazakhstan have rapidly grew since then and took over the top exporter's positions, with the 2013 exports reaching to 2,170,943 tons and 1,860,387 tons, respectively (figure 4.19).

Pakistan's wheat exports in recent years have been erratic including the sluggish years between 2008 and 2010. Pakistan's wheat flour exports have been led by the export to Afghanistan which peaked in 2011. Iran spurred its wheat flour exports since 2005, but its growth has not been stabilized, yet, and only a small amount of wheat flour was exported such as 85,000 tons in 2013.

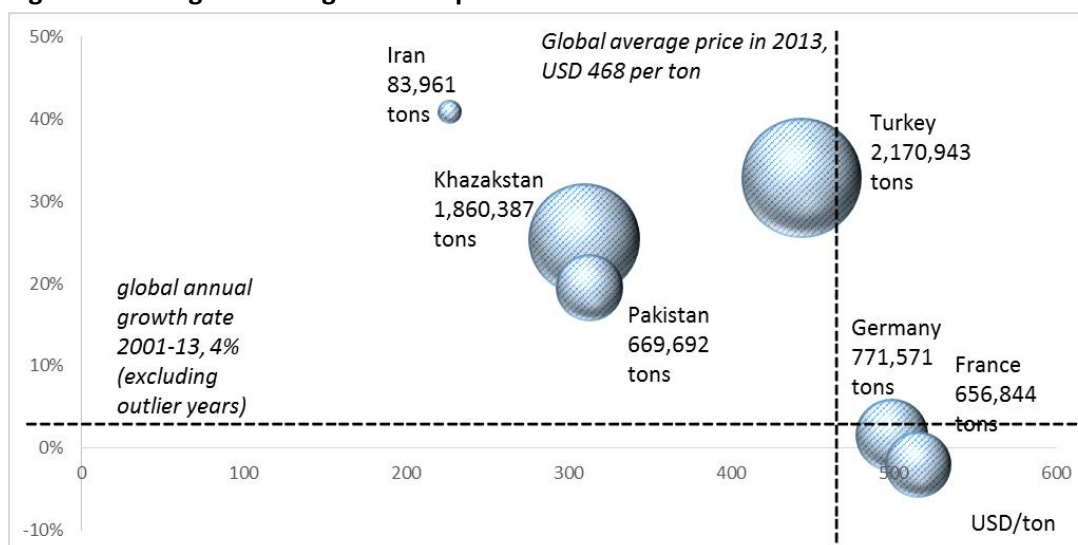
The unit export price for all these countries in this part of the world is below the world average, which may explain their very high rates of average annual growth (33 per cent for Turkey, 25 per cent for Kazakhstan, 37 per cent for Pakistan⁵⁴ and 41 per cent for Iran). It is worth noting that Pakistan's unit export price of wheat grains is USD 323 per ton (figure 4.18), which is higher than the wheat flour price (USD 312 per ton in 2013). It indicates how the wheat flour price is kept artificially low in the Pakistan market.

It is important to note that whether Iran's flour became less expensive than that of Pakistan in 2013 uncertain despite Figure 4.19 where it appears so. According to FAOSTAT data, the unit price of wheat flour was less expensive in Iran than Pakistan in both 2012 (USD 228 and USD 269 per ton, respectively) and 2013 (USD 227 and USD 312, respectively) while the field survey data of this study in 2012 shows the opposite (USD 333 per ton for Iran and USD 321 for Pakistan). Knowing the limitations of the reliability of available statistics⁵⁵ combined with the widening gap of the Iranian exchange rate between the official rate and the market rate, we would consider the field survey data of this study more realistic which used the market exchange rate for conversion into US dollar figures.

Given the increased unit price of Pakistan between 2012 and 2013 reported in FAOSTAT and the neck-on-neck situation of the price in both countries reported in the field survey data of this study, it would be prudent to say that the unit price of the wheat flour in the two countries in 2013 would remain close. Its impact on Afghanistan's import may be minor, though, as Iran's wheat flour exports remain small and the market is dominated by Pakistan and Kazakhstan.

⁵⁴ Calculation of the average annual growth rate of Pakistan excluded outlier years.

⁵⁵ For example, 2012 and 2013 figures of Iran's wheat flour exports are not the official data but FAO estimates.

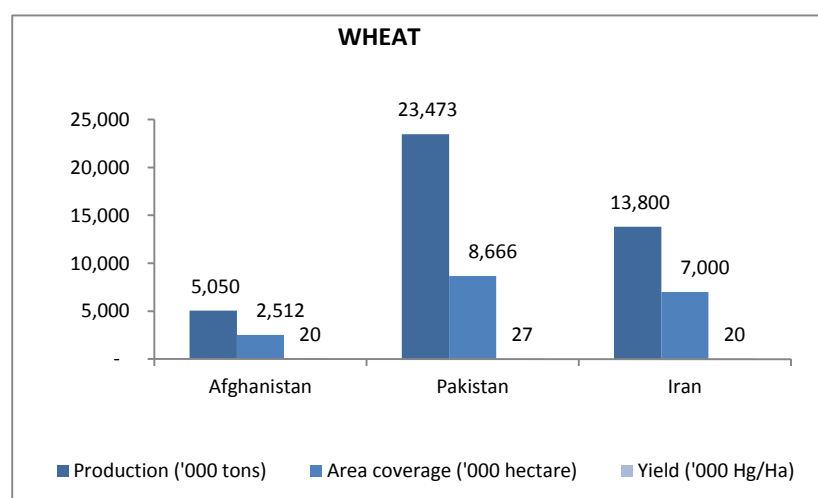
Figure 4.19. Regional and global competitiveness in the wheat flour market

Source: Elaborated from FAOSTAT data

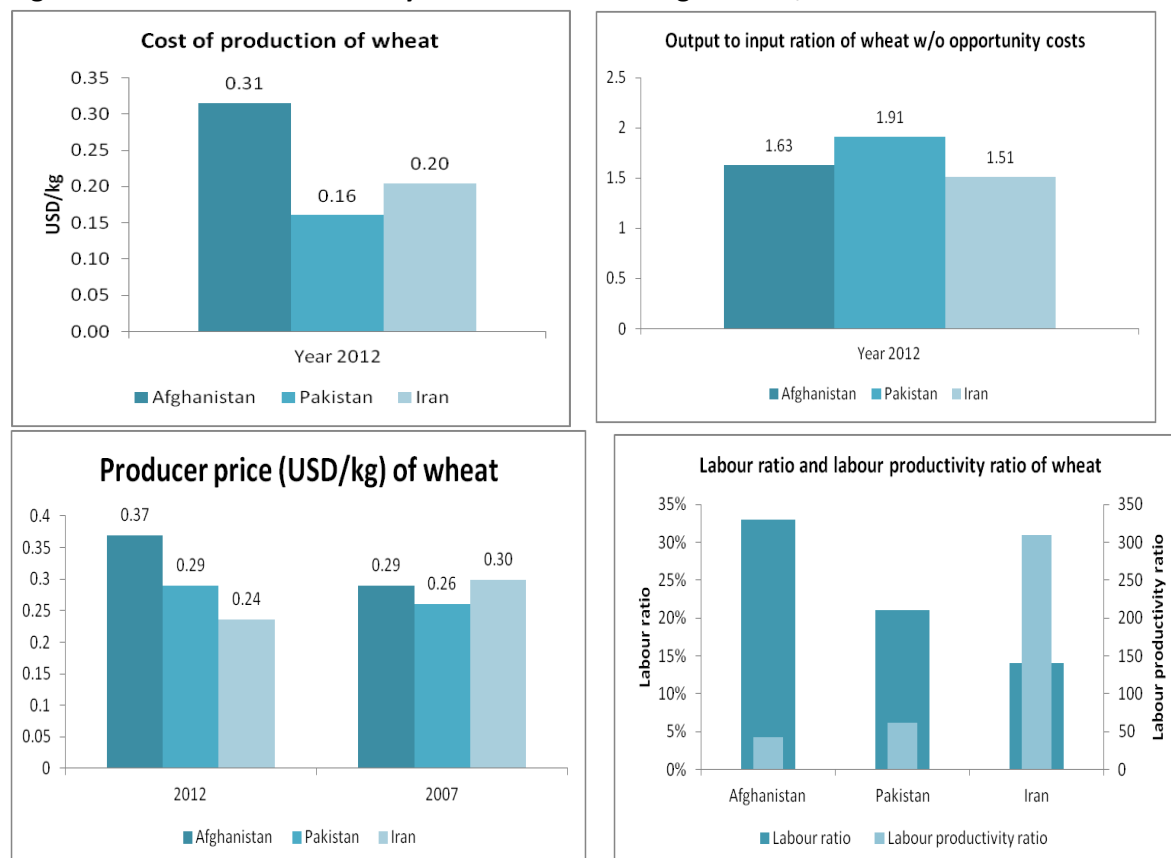
Afghanistan does not export any wheat flour, and imports flour mostly from Pakistan and Khazakhstan. Surrounded by the large, price-competitive wheat flour exporter countries, it appears that balancing the import portfolio could lead to food security in Afghanistan. However, the export ban of wheat flour by the Pakistan Government during the sluggish years of 2008-2010 made Afghans painfully aware of the risk of relying too heavily on a couple of countries. It is against this backdrop that strategic grain reserve has been prioritized.

4.2.5 Local production and productivity in the three countries under review

Pakistan grows by far the largest amount of wheat - followed by Iran. In terms of area-coverage, the order remains the same. From the standpoint of yield value, Pakistan has the highest value, while Afghanistan and Iran have the same yield value (figure 4.20).

Figure 4.20. Production, area coverage and yield comparison of wheat in Afghanistan, Iran and Pakistan in 2012

Source: FAOSTAT

Figure 4.21: Production efficiency status of wheat in Afghanistan, Iran and Pakistan

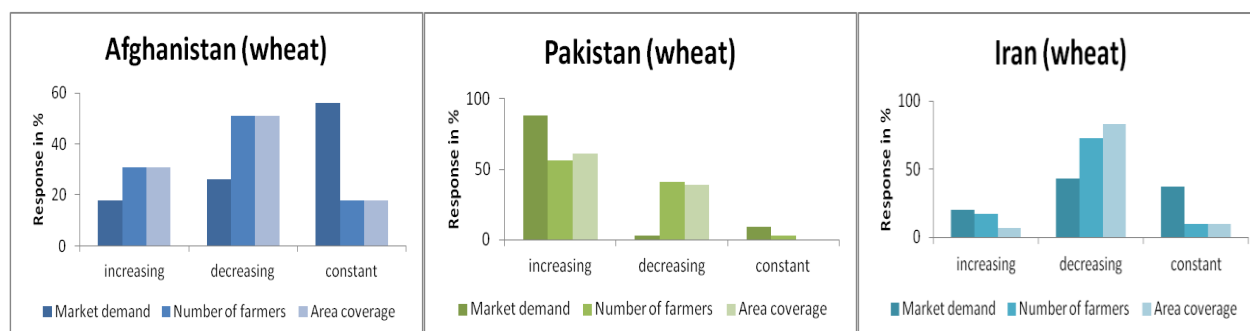
Not surprisingly (due to its highest yield among the group), the cost of wheat production is the lowest in Pakistan, followed by Iran. The output to input ratio is the highest in Pakistan, showing that farmers make a significant profit by cultivating wheat, thanks to Government support, which artificially raises the price of wheat. This support price helps the farmers to attain a higher price but keeps the wheat flour price down. The Government storage department sets the procurement price, which is usually higher than the market price. Once the Government completes its procurement, the price of wheat starts to go down and the traders/flour mills start to buy it. However, once the stock of wheat grains is diminished, the government storage department starts releasing the wheat grains to the open market - but at their purchase price, so that no storage or overhead costs are added. This also explains why the wheat unit export price becomes higher than the wheat flour unit export price (figures 4.18 and 4.19).

Producers' prices increased in both Afghanistan and Pakistan but actually decreased in Iran, where the implementation of the "Targeted Subsidies Act" most probably played a role. The Government reduced its subsidies to agricultural inputs and direct procurement with guaranteed prices and allowed the market to be free to play its role in determining prices.

The labour and labour productivity ratios indicate the level of mechanization in the three countries. The labour ratio (cost of labour in the total production cost) is the highest in Afghanistan and the lowest in Iran, while the labour productivity ratio (the number of kilos of wheat produced in one working day) is the highest in Iran and the lowest in Afghanistan.

4.2.6 Farmers' perceptions

Figure 4.22. Farmers' perceptions about the growth of wheat production in the three countries



In Afghanistan, the majority of the farmers (56 per cent) see a constant demand for wheat, although both the number of farmers and area coverage constitute a declining trend (figure 4.22). The question may well be asked why, if there is a constant demand for wheat, the other two parameters are on the decline. As observed in the field, the farming of wheat is not as profitable as that of other crops if they can be grown (such as grapes), and whoever can shift to other crops does so. However, as the macro data show, there is an increase in wheat production and area coverage in Afghanistan. It is noted that farmers keep the majority of their wheat production for self-consumption and to ensure food security. In this particular context, the farmers' perceptions are linked to the market, in which only a limited number of farmers are involved. Commercial farmers are more likely to adopt more profitable crops and, from their perspective, wheat farming is on the decline.

In Pakistan, 88 per cent of the farmers perceive a growing trend for wheat demand - and both the number of farmers (56 per cent) and area coverage (61 per cent) bear out this trend. Nonetheless, a significant share of farmers feel that the number of farmers and area coverage constitute a declining trend (41 and 39 per cent, respectively). As wheat is the major staple food and subsidized by the Government, more farmers are taking up wheat production and there is an increase in the crop's area coverage. In Iran, the results are self-explanatory: market demand is decreasing or constant, and therefore the other two parameters are on the decline. In the light of the overall competitiveness analysis in the preceding sections, this situation is not surprising.

4.3 Rice

Section summary: Pakistan has been one of the leaders in the global rice market, exporting to both Afghanistan and Iran. Pakistani rice gained price competitiveness and almost reached price parity with Afghan rice in 2012. Although it is still more expensive than both Pakistan and Afghanistan, the rapid declining price of the Iranian rice predicts tougher competition in near future. During the 2007-12 period, Pakistan exports to Afghanistan remained more or less constant, but they are likely to increase in the future given the eroded price competitiveness of Afghan rice. However, Iran's increased competitiveness has resulted in a decline of Pakistani rice imports. In the global context, Pakistan is showing significant growth, while the other two countries lag far behind - either small and erratic exports (Iran) or few exports (Afghanistan). Iran has the highest yield (which has certainly helped it gain competitiveness,) followed by Pakistan. Afghanistan's rice yield per unit is almost half that of Iran.

Table 4.8: Varieties studied - Rice

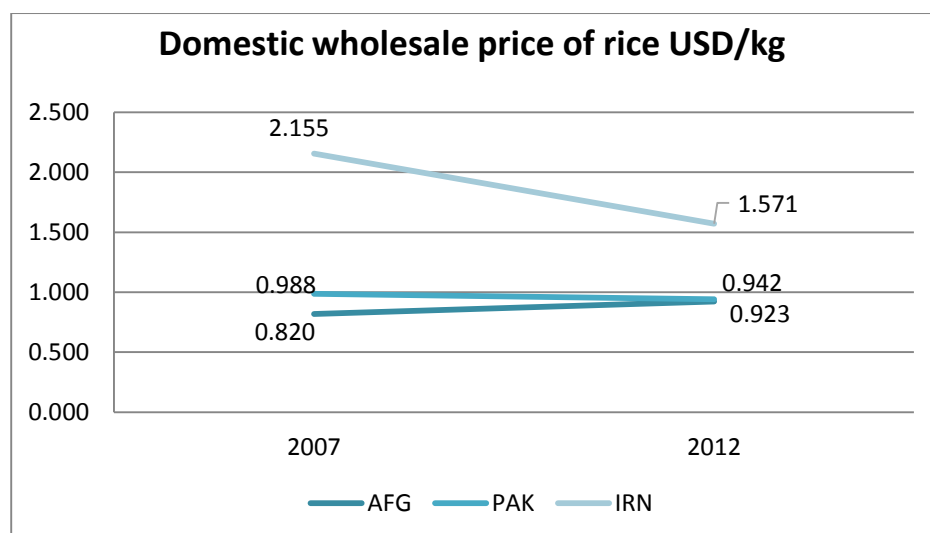
(bold-italics indicate the varieties used for price graphs)

Country	Variety	Commercial Features
Afghanistan	Baghlani Surekha rice	Long-grain (Indica); popular for commercial use ("Palao" mixed rice).
	Barla	Ditto.
	Shalawangi	Short-grain (Japanica); not popular commercially, preferred by the poor due to its low price; used for "Shula" dish.
	Surekha	Long-grain (Indica); ditto for the feature.
	<i>Sela Watani</i>	<i>Best among the long-grain (Indica); ditto for the feature.</i>
	Surekha Zarati	Long-grain (Indica); ditto for the feature.
Pakistan	Sela	Long-grain (Indica); parboiled type, creamy white in colour, popular for commercial use; exported to Afghanistan and considered higher quality than the local equivalent.
	<i>Basmati</i>	<i>Long-grain, aromatic, white in colour, uniformity in colour and size, dominant in terms of supply and prices – both in the local and export markets.</i>
	Coarse grain	Short length of grain, sticky when cooked, variation in colour and size.
Iran	Jamshid	Good quality, more resistant to pest attacks and good yield.
	Ali Kazemi	High yield.
	<i>Hashemi</i>	<i>Good quality, long-grain and high price.</i>

4.3.1 Wholesale price and trend

The domestic wholesale price of locally produced rice of equivalent quality in Afghanistan was 0.820 USD/kg in 2007 and 0.923 in 2012; 0.988 USD/kg in 2007 and 0.942 USD/kg in 2012 in Pakistan; and 2.155 USD/kg in 2007 and 1.571 USD/kg in 2012 in Iran. It is clear that Afghan rice production is a threat to Pakistani rice, as the latter had almost reached the parity by 2012 (figure 4.23).

Figure 4.23. Wholesale price trend of rice for local produce in 2007 and 2012



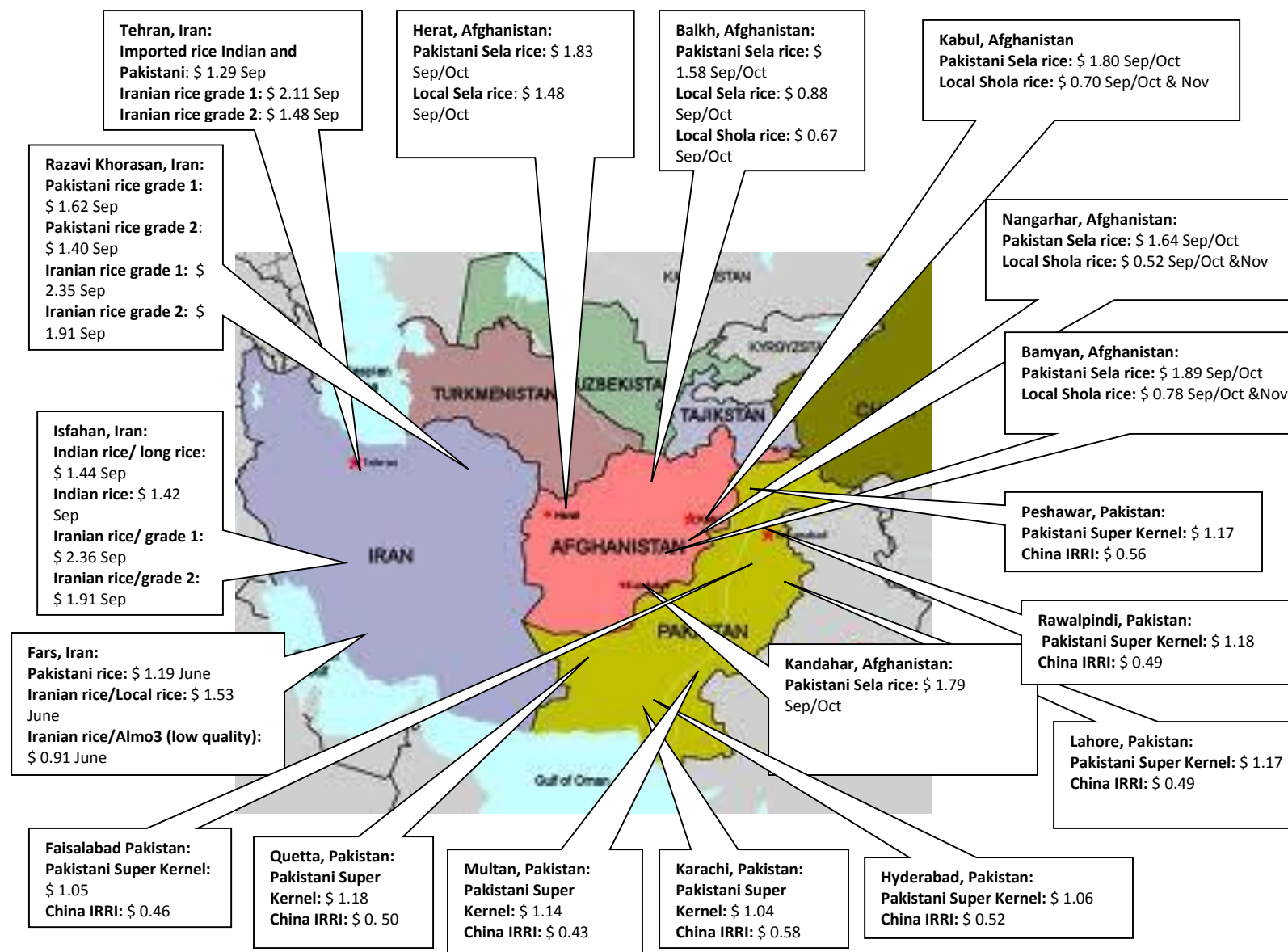
4.3.2 Current retail price mapping

In all the three countries under review, imported rice was observed alongside locally produced rice in the local market. In Afghanistan, two major types of rice were observed - long grain (basmati), locally known as *Sella* rice, and smaller grain or *Shula* rice. While *Shula* rice is produced locally, *Sella* rice is mostly imported – although there is some local production, particularly in some specific provinces in the northern and northwestern region. All imported *Sella* rice is of Pakistani origin. Locally produced *Sella* rice is only available in Balkh, Baghlan, Kunduz and Herat. However, local *Sella* rice is inferior in quality and its price is consequently lower than that of Pakistani origin. This situation might change in the future, given the eroded competitiveness of Afghan rice (figure 4.23). The price of imported *Sella* rice varies by province - the lowest is in Nangarhar (close to Peshawar) and then in Balkh. As Balkh also produces local *Sella* rice, Pakistani *Sella* rice has to compete with it on the local market, and its price is therefore lower - even after additional transportation costs. The highest price of imported rice is observed in Bamyan, followed by Herat and Kabul.

Pakistan is a major player in the international rice market and exports fine quality rice (super kernel basmati rice, called *Sella* in Afghanistan). But it has to import (mainly from China) coarse varieties of rice (equivalent to short-grain or *Shula*) to meet the local market demand. The prices of such varieties are much lower in the domestic market compared to those of a finer quality.

Every year Iran has to import rice, as local production cannot meet the domestic market demand. Mainly Pakistani and Indian rice were observed alongside local rice in the retail market. Two major types of rice in terms of quality are traded. Imported Indian and Pakistani rice are considered better quality, although Iran also has locally-produced rice of both higher and lower quality in the market. Imported rice is cheaper than locally-produced varieties of inferior quality. Iran's policy to provide a guaranteed purchase price to the farmers and then to distribute the rice through government channels (by controlling imports) results in a higher market price for locally-produced rice.

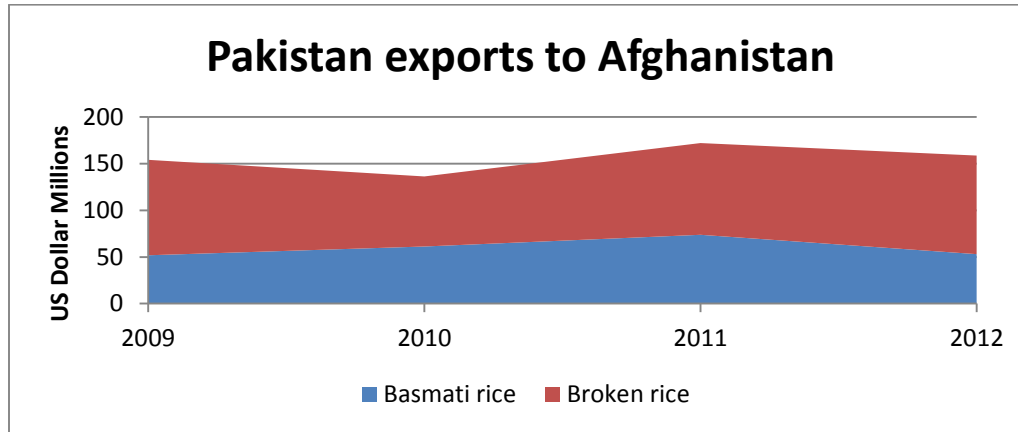
Figure 4.24. Rice retail price (USD per kg) in major cities in Afghanistan, Iran and Pakistan



4.3.3 Trade among the three countries

According to the Pakistan Customs data, Afghanistan's total import of rice (basmati and broken) remained more or less constant during the 2009-12 period - in the range of \$US 150 million. However, as regards price competitiveness, Pakistani rice had almost reached parity with Afghani rice by 2012 (figure 4.25). Consequently, the imports from Pakistan are likely to increase during the coming years.

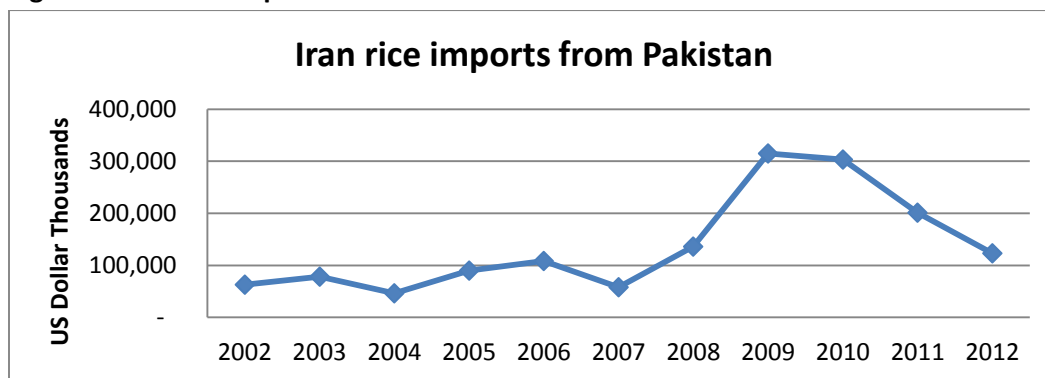
Figure 4.25. Pakistan's export of rice to Afghanistan



Source: Pakistan Customs data

On the other hand, Iran's import of rice from Pakistan reached a peak in 2009 and declined thereafter. Figure 4.23 shows that Iranian rice is increasingly gaining price competitiveness compared to Pakistani rice.

Figure 4.26. Iran's import of rice from Pakistan



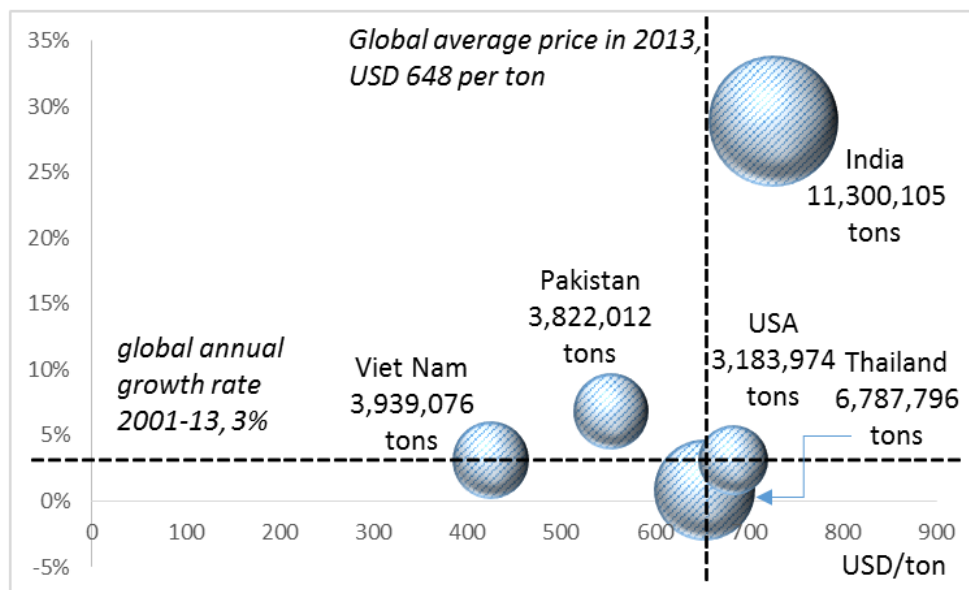
Neither Afghanistan nor Iran exports any rice to Pakistan. There is an occasional rice trade between Afghanistan and Iran, but this is limited. According to the Iran Customs data, Iran imported rice worth US\$ 58,016 from Afghanistan in 2010.

4.3.4 Global trade scenario

India, Thailand, Viet Nam, Pakistan and USA are the top exporters in the global rice export market. Thailand used to be the top exporter, but India's export grew rapidly in recent years and took over the top exporter's position as of 2012 with 29 per cent average annual growth rate during the 2001-13 period, while Pakistan remains one of the top exporters of rice throughout the period with 7 per cent average annual growth rate (figure 4.27). In terms of price (as of 2013), Indian rice obtains the highest price (US\$ 726 per ton), which is above the global average (US\$ 648 per ton), while Pakistan (US\$ 553 per ton) and Viet Nam (US\$ 425 per ton) obtain much less than the world average. Iran's rice exports has been small and erratic. Except for 2007 when it recorded 10,598 tons of export, its exports fluctuated between a couple of hundreds and one thousand plus tons.

Figure 4.23 indicates that Iranian rice has been more expensive than that of Pakistan and Afghanistan. However, by 2012, Iran's rice price in US dollar terms declined significantly, implying possibility to catch up with the price of Pakistan and Afghanistan in the following years if the trend continues.

Figure 4.27. Regional and global competitiveness in the rice market



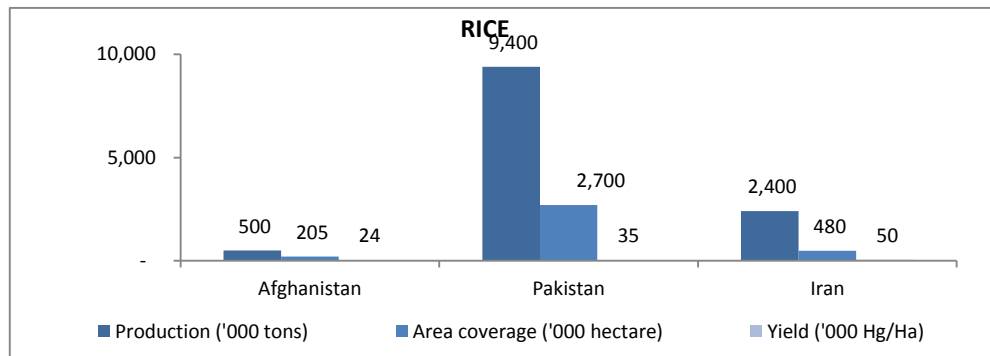
Source: Elaborated from FAOSTAT data

From the above data, it may be concluded that, among the three countries, Pakistan has a comparative advantage in this region both in terms of volume and price by selling at a lower price than the world average while Afghanistan market is protected from rice from the major rice exporters except for Pakistan due to its geographic location and the absence of transit agreement for India to pass its products through Pakistan territory. Both Afghanistan and Iran import a large amount of rice from Pakistan every year. The impact of the parity in price between Afghanistan and Pakistan (Figure 4.23) on the rice imports of Afghanistan is yet to be seen, but it is going to be tougher for Afghanistan to compete against the global exporter without price advantage.

4.3.5 Local production and productivity

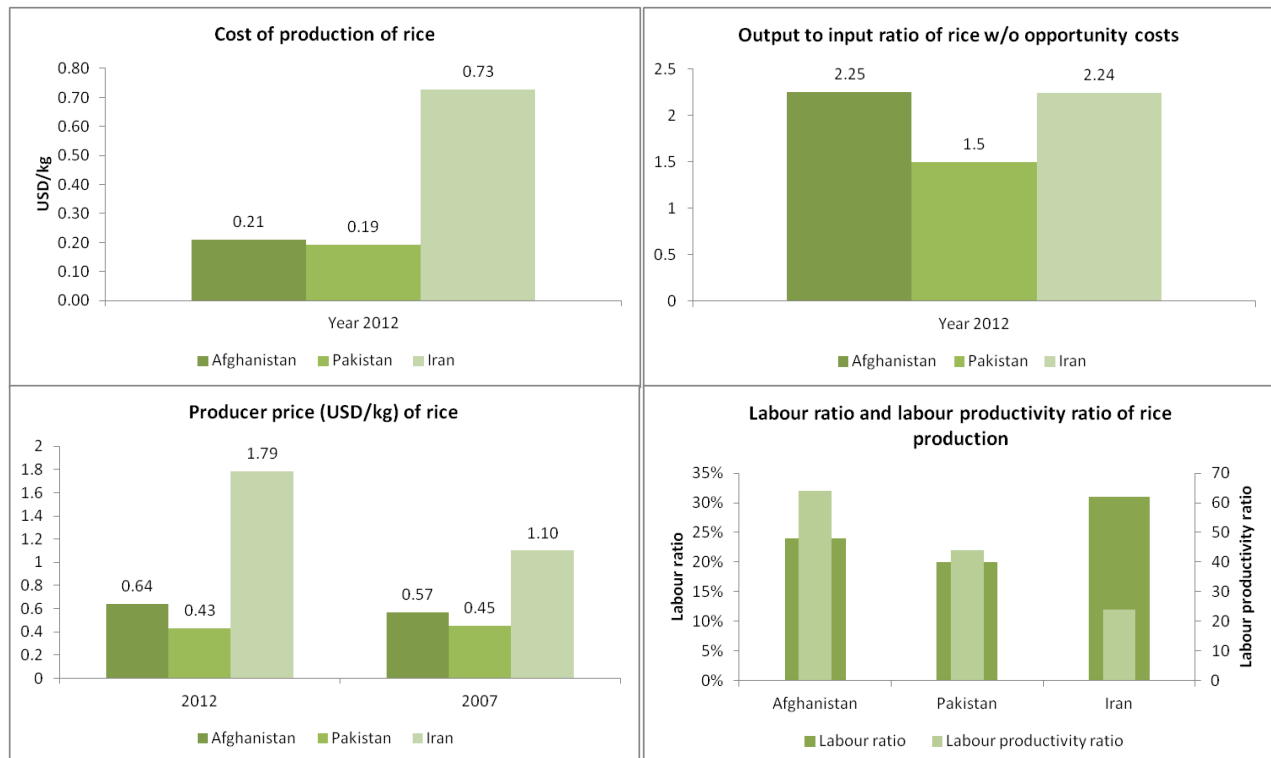
Pakistan produces the highest amount of rice by far, followed by Iran (figure 4.28). However, yield-wise, Iran is the leader - followed by Pakistan. Afghanistan's yield of rice is only half that of Iran. Iran's high yield has certainly been catalyzing its increase in price competitiveness since 2007.

Figure 4.28. Production, area coverage and yield comparison of rice in 2012



Source: FAOSTAT

Figure 4.29. Production efficiency status of rice in the three countries



The rice production cost is the lowest in Pakistan, followed by Afghanistan (figure 4.29). It is significantly high in Iran. The output-input ratio is the highest in Afghanistan, followed by Iran. As the output-input ratio is very high in Iran, despite the high production cost, the producer price is actually the highest in this

country - followed by Afghanistan. Interestingly, unlike other crops, the rice in Iran is more labour-intensive, hence explaining its highest labour ratio.

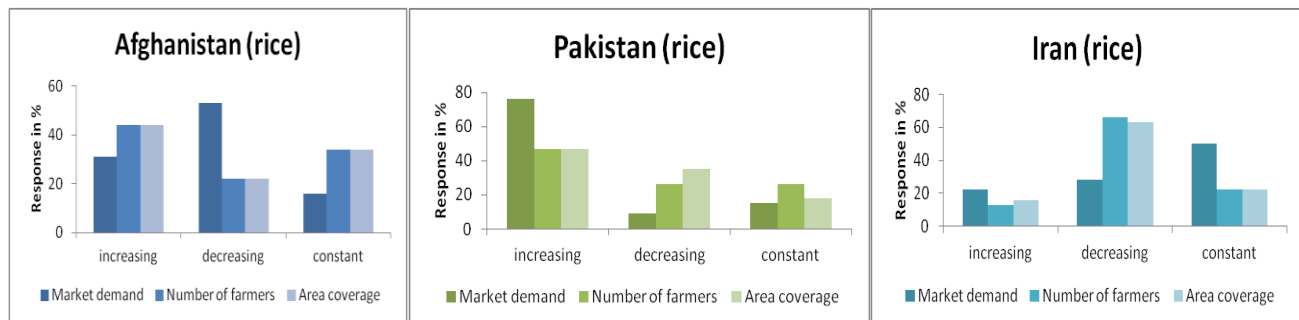
4.3.6 Farmers' perceptions

Forty-four per cent of the farmers in Afghanistan perceive an increase in the number of farmers and in area coverage, followed by 34 per cent who see a constant trend (figure 4.30). In the case of market demand for their produce, however, the majority (53 per cent) believes that there is a declining trend. The wholesale price trends shown in figure 4.23 also reveal that Afghan rice is losing price competitiveness against Pakistani rice. It is not therefore surprising that farmers feel that the demand for their produce is decreasing.

In Pakistan, all three parameters show an increasing trend. There has been an increase in market demand, the number of farmers and area coverage by 76, 47 and 47 per cent, respectively. Rice is a major export crop for Pakistan and growing demand is encouraging more farmers to cultivate rice.

In Iran, although the majority of the farmers view the market demand as constant, they see a decrease in area coverage and the number of farmers. The secondary data also support this. Although Iranian rice gained significant price competitiveness after 2007, the domestic retail price map shows that local rice is more expensive than imported varieties. Hence, it is not unlikely that farmers will shift away from rice.

Figure 4.30. Farmers' perceptions about the growth of rice production in the three countries



4.4 Tomatoes

Section summary: Turkey and Iran are among the group of emerging economies that grow faster than the present market leaders of fresh/chilled tomato exports. *Iran further improved its price competitiveness against Afghan tomatoes and tomato paste used to be the cheapest among the three countries under the review, but Iran has reached price parity by 2012. Pakistan is increasingly losing its competitiveness. Iran's overall competitiveness is also reflected in the trade pattern among the three countries under review, as it is exporting more and more to both Afghanistan and Pakistan. In addition, it has a very high growth rate in the global market. While currency depreciation in Iran has helped it gain further price competitiveness, Iran's high production yield compared to the other two countries has also acted as a catalyzing factor. Afghanistan still manages to dominate with its fresh harvest in the domestic market and exports the surplus to Pakistan. This may cease to be the case in the future as Iran has already reached price parity with Afghanistan. When it comes to tomato paste, Iran is the leader of the regional market along with Turkey. Iran is therefore the strong exporter to Afghanistan and Pakistan. Afghanistan's local production for the domestic market may be under threat as the wholesale price of Iranian tomato paste reached price parity with that of Afghanistan in 2012 while it cannot catch up with the quality, yet.*

Table 4.9: Varieties studied - Tomatoes

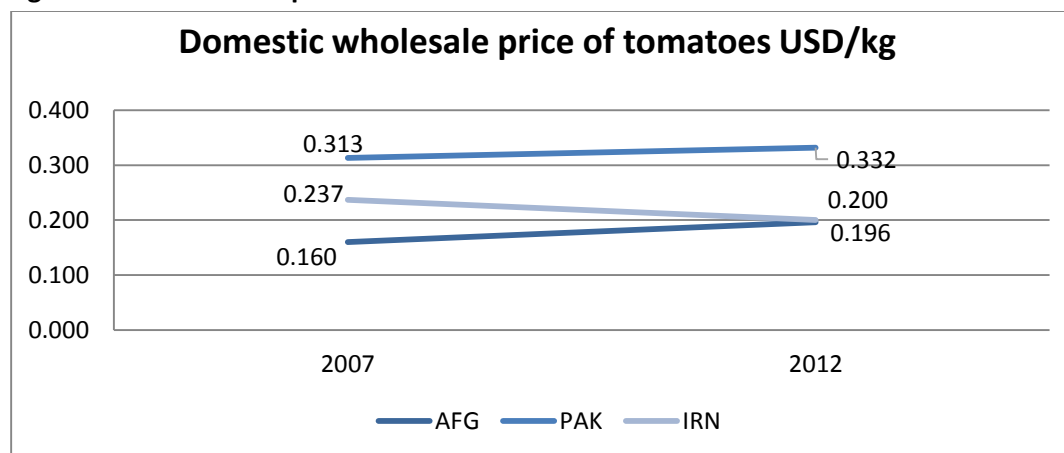
(bold-italics indicate the variety used for price graphs)

Country	Variety	Commercial Features
Afghanistan	Gul	Commercial features are mainly determined by size, colour and freshness; the Holland variety is more suitable for making tomato paste. Otherwise, there is no such difference in the consumer market.
	Watani	
	Pakistani (cultivated locally)	
	Holland	
Pakistan	F1 hybrids (determinate and indeterminate)	Uniform size, uniform colour/attractive red colour, oval shape, longer shelf life, easy to slice, dominant in terms of supply volumes throughout the year, higher prices than local.
	Local varieties	Small size, oval shape, sweet taste, longer shelf life, aromatic.
Iran	PS	Oval-shaped, good consumer demand as fresh.
	Flat 111	Greater resistance to disease, larger in size.
	Dutch mobil	High yield, more pest-resistant and drought-tolerant, high demand among paste-making factories.

4.4.1 Wholesale price trend of tomatoes

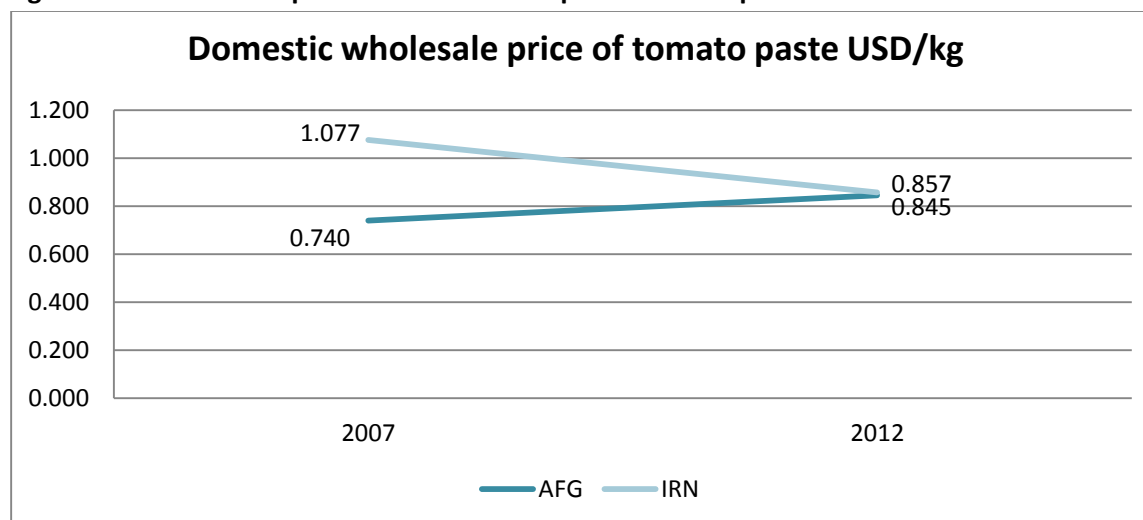
The domestic wholesale price of locally-produced tomatoes in Afghanistan was 0.160 USD/kg in 2007 and 0.196 in 2012; 0.313 USD/kg in 2007 and 0.332 USD/kg in 2012 in Pakistan; and 0.237 USD/kg in 2007 and 0.200 USD/kg in 2012 in Iran. It is clear that Iranian tomatoes have almost reached price parity with Afghan tomatoes (figure 4.31).

Figure 4.31. Wholesale price trend of tomatoes in 2007 and 2012



Pakistani-made tomato paste is not widely common in the local market. Consequently, only tomato pastes from Afghanistan and Iran are taken into consideration. Figure 4.32 shows that Iranian tomato paste reached price parity with Afghan tomato paste in 2012.

Figure 4.32: Wholesale price trend of tomato paste for local produce in 2007 and 2012



4.4.2 Current retail price mapping

Since both fresh tomatoes and tomato pastes from various countries are present on the retail markets, the price mapping of both products is significant (figures 4.33 and 4.34). Tomatoes are grown in all three countries under review. The main harvesting season in Afghanistan and Pakistan is from June to August, while it is in September in Iran. In Afghanistan, no imported tomatoes were found in the market during the harvesting period as the price is very low - only USD 0.19 per kg, which gradually increases to around USD 0.50 per kg towards the end of season in August. As Bamyan does not grow tomatoes, the price is always a little higher there compared to the other provinces. Fresh tomatoes are found in the Afghan market at other times of the year, but they are mostly of Pakistani origin and are much more expensive. The exception to this rule is Herat, which imports tomatoes from Iran during the off-season on account of its geographical proximity.

Due to its diverse agro-climatic conditions, Pakistan grows tomatoes in different seasons and therefore has a comparative advantage in fresh tomatoes for an extended period of the year. The major harvesting season is from May to June, while the second harvesting season is from November to December. However, imported fresh tomatoes (from Afghanistan and India) were even found during the harvesting season on the retail market of different provinces, depending on their proximity to these neighbouring countries. Much is contingent upon geographical location. Afghan tomatoes are more available in Peshawar and Rawalpindi, while Indian tomatoes are found in all major provincial cities. In Peshawar and Rawalpindi, Afghan tomatoes are cheaper than Indian ones. In other areas, Indian tomatoes with a higher price tag are available when Pakistani fresh tomatoes are no longer available.

Iran hardly imports any fresh tomatoes as it grows them in abundance. They are at their cheapest in September. When they start to appear on the market in June, their price is at its highest. Iran exports a large amount of tomato paste in the region, and it may be found in both the Afghan and Pakistani retail markets throughout the year. In the Afghan market, Iranian tomato pastes are in strong competition with locally-produced ones, although the price of the former is higher. However, this may no longer continue to be the case, as Iranian tomato paste has already reached price parity with Afghan tomato paste (figure 4.32). As perceived by consumers, Iranian tomato pastes are of better quality. In the Pakistan market, Iranian and Chinese pastes compete with each other. Iranian pastes are more expensive than Chinese pastes everywhere – with the exception of Quetta (border with Iran). In the Iranian domestic market, the retail price varies according to the harvesting time. During this period (June), fresh tomatoes are available - and hence the demand for tomato paste decreases, along with its price.

Figure 4.33. Tomato retail price (USD per kg) in major cities in Afghanistan, Iran and Pakistan

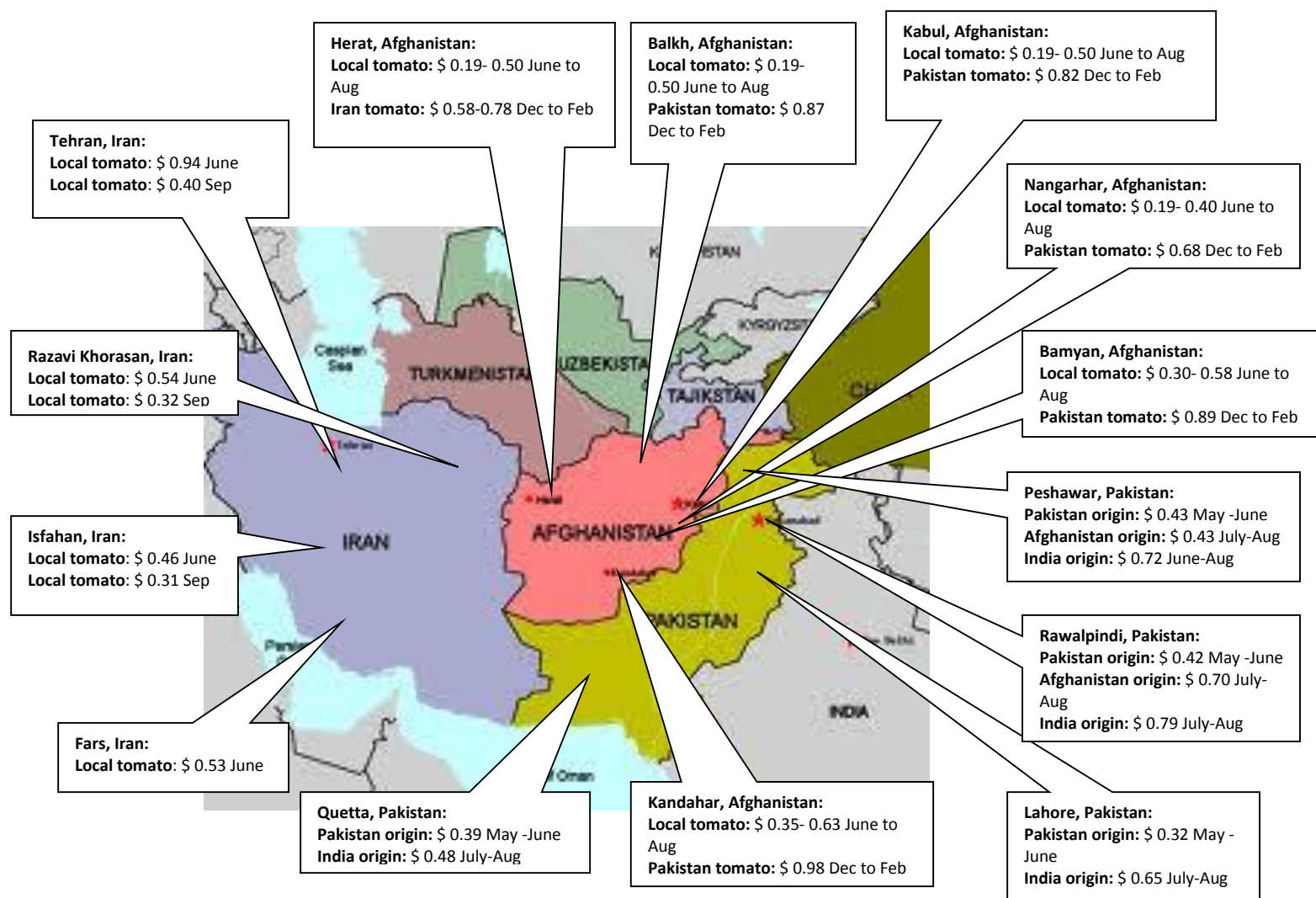
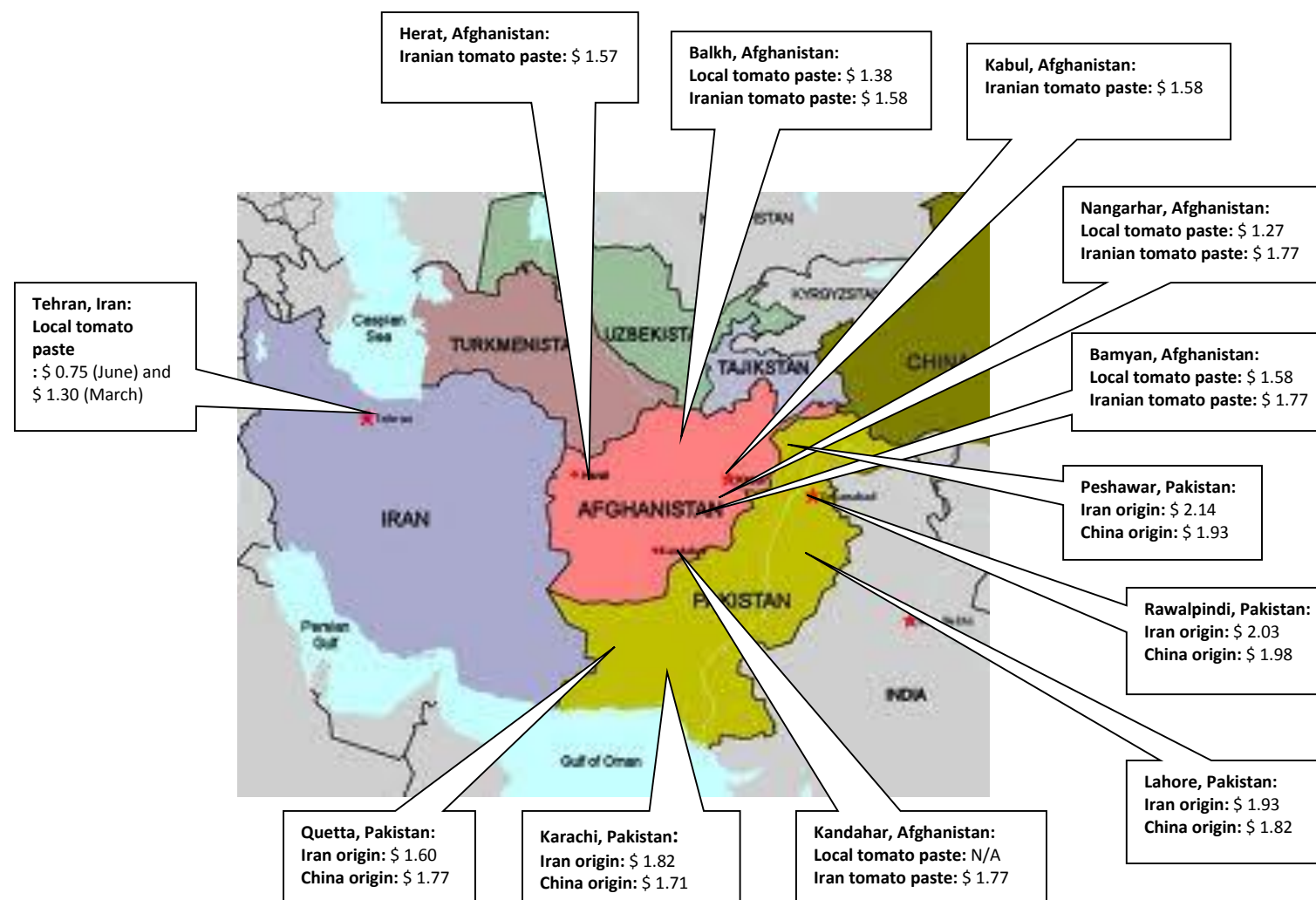


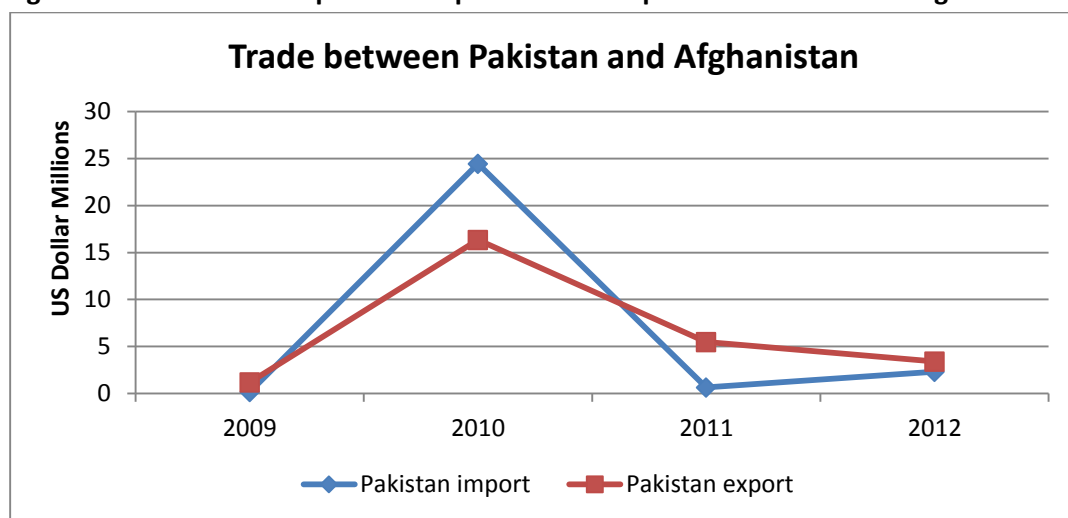
Figure 4.34. Tomato paste retail price (USD per 800 grams) in the major cities of Afghanistan, Iran and Pakistan



4.4.3 Trade among the three countries

According to the Pakistan Customs data, the fresh tomato trade between Afghanistan and Pakistan shows a mixed picture. In 2010, Pakistan's imported value was higher than its export value, but this situation turned around in 2011. In 2012, the import and export values remained almost the same (figure 4.35).

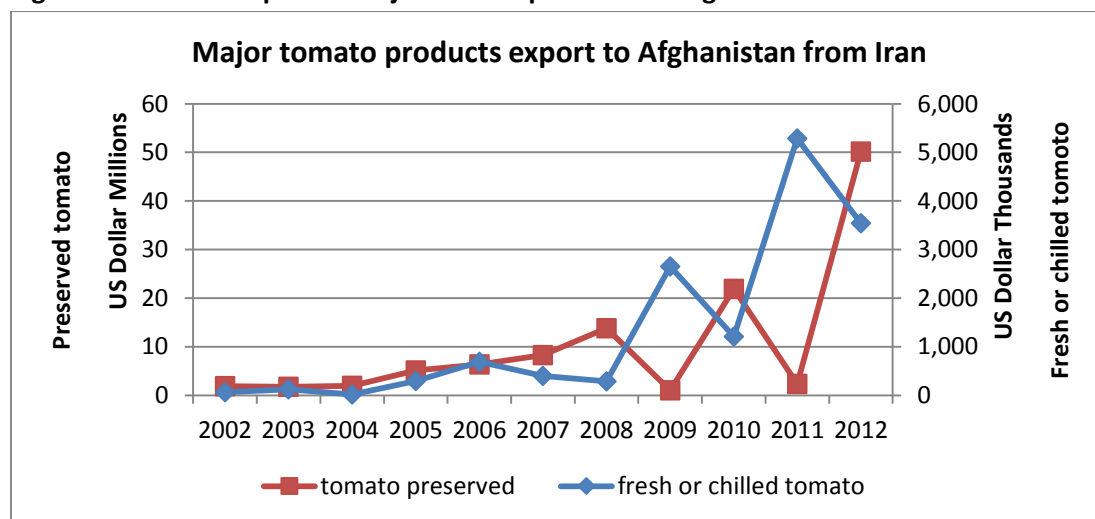
Figure 4.35. Pakistan's import and export of tomato products from and to Afghanistan



Source: Pakistan Customs data

On the other hand, Iran constantly increased its exports to Afghanistan of two of its major tomato products - fresh or chilled tomatoes and preserved tomatoes (or tomato paste) – during the 2002-12 period. The export value of preserved tomatoes is much higher compared to that of fresh tomatoes.

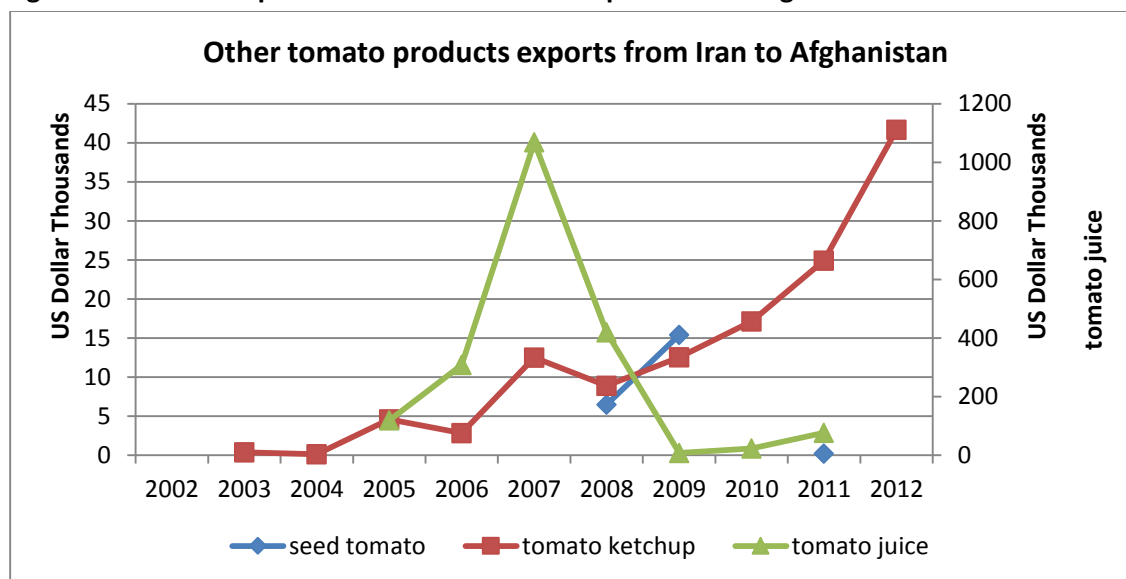
Figure 4.36. Iran's export of major tomato products to Afghanistan



Source: Iran Customs data

Exports of other tomato-based products from Iran to Afghanistan also increased during the 2002-12 period (figure 4.37). Seed exports were occasional, but exports of tomato ketchup constantly grew. Exports of tomato juice reached a peak in 2007, but then drastically fell until 2009 – when they started to grow again.

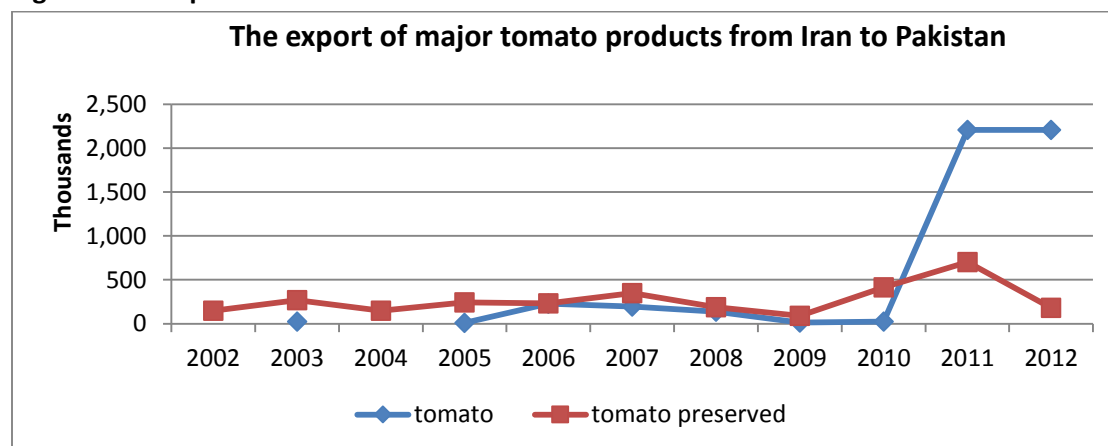
Figure 4.37. Iran's export of minor tomato-based products to Afghanistan



Source: Iran Customs data

Iran's exports of fresh tomatoes to Pakistan increased drastically in 2011 and maintained their total export value the following year. However, the export of preserved tomatoes were erratic, reaching a peak in 2011 but then declining again in 2012 (figure 4.38).

Figure 4.38. Exports of tomatoes from Iran to Pakistan

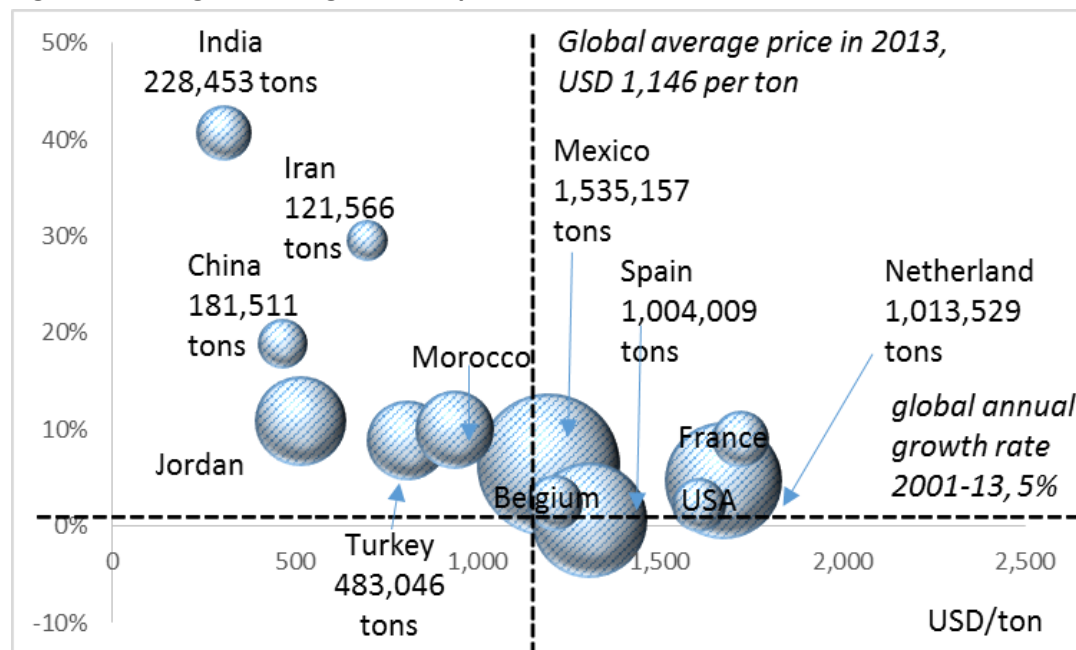


Source: Iran Customs data

4.4.4 Global trade scenario

Figure 4.39 shows that, while the global leaders of tomato exports are Mexico, Netherland and Spain, the group of emerging economies constitute the high growth cluster⁵⁶ with lower export price than that of global average. Among them, Turkey is far ahead in terms of export volume (483,046 ton in 2013) in this part of world, followed by India (228,453 tons), China (181,511 tons) and Iran (121,566 tons). Pakistan's tomato exports has been very small (5,403 ton in 2013) except for two outlier years of 2009 and 2011 when its export volume exceeded 40,000 tons. The FAOSTAT only recorded exports from Afghanistan for 2011, and these amounted to a mere 50 tons.

Figure 4.39. Regional and global competitiveness in the fresh/chilled tomato market



Source: Elaborated from FAOSTAT data

As shown in Figure 4.31 earlier, by 2012, Iran further increased its price competitiveness against Pakistan in tomatoes and reached price parity with Afghan tomato. Iran's export growth has also been very strong (30 per cent). All these indicate that Iran is likely to remain strong in this region and may affect the Afghan tomato sector if the trend continues.

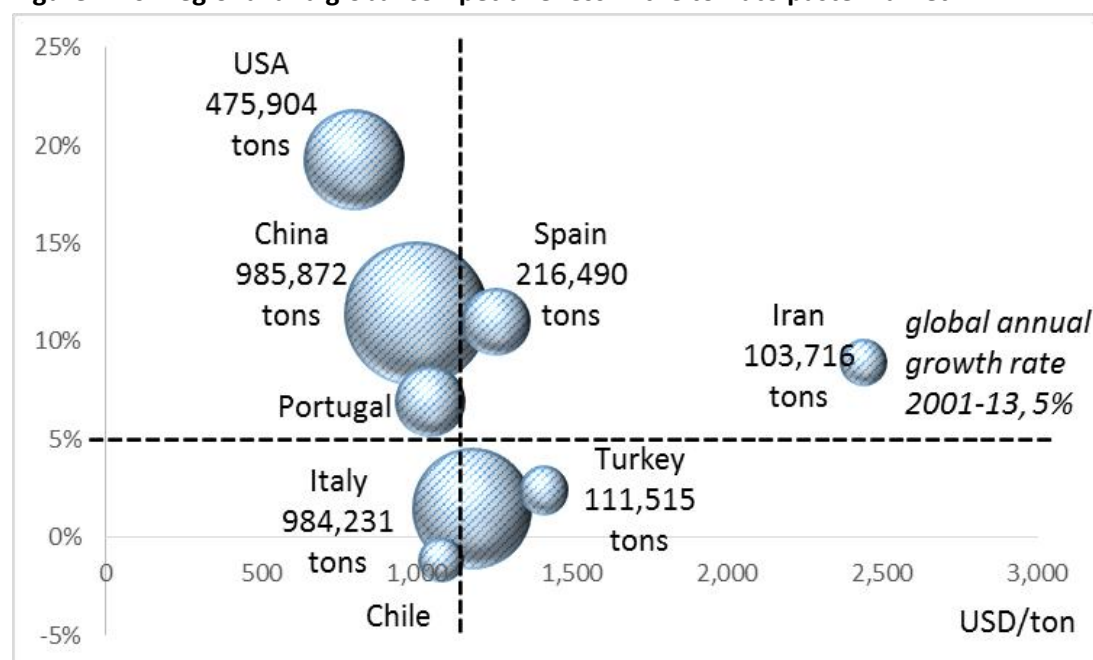
Tomato paste

While China, Italy and USA lead the global exports of tomato paste, Turkey and Iran are among the large exporters as well. The observations at the supermarkets in Afghanistan indicate that the tomato paste imports in Afghanistan are dominated by neighbouring countries such as Iran and Turkey due to its inexpensive price. The USD price per ton of Iran in 2013 (USD 2,441) in Figure 4.40 might be a reporting error of either quantity or value of its tomato paste exports as it looks too high compared to the global

⁵⁶ The calculation of the average annual growth rate for India and Iran excluded outlier years.

average price of USD 1,115 per ton to achieve a reasonable average annual growth rate of 9 per cent.⁵⁷ Turkey's unit price in Figure 4.40 is higher than the global average price and most of the top exporters of tomato paste, but it could be the transportation cost that put both Turkey and Iran in advantage in the Afghanistan market. Other regional players such as Uzbekistan, Kazakhstan, India and Pakistan also export tomato paste but only in limited quantities. The unit export price of the former two countries is much lower than the global average, but much higher for India and Pakistan.

Figure 4.40. Regional and global competitiveness in the tomato paste market



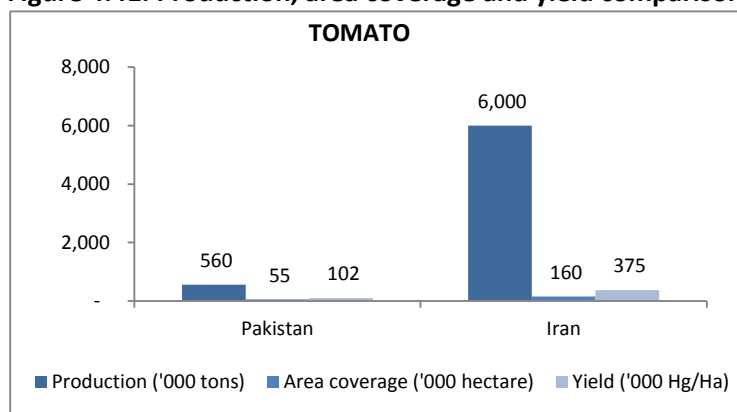
Source: Elaborated from FAOSTAT data

As shown in Figure 4.32 earlier, by 2012, Iran's tomato paste price came to the parity level as that of Afghanistan. Given the inferior quality of Afghanistan's tomato paste, room for import substitution of tomato paste remains small. This would also mean that, with limited opportunities to expand value chain linkage to tomato processing, the future of Afghan tomato farmers will be bleak.

4.4.5 Local production and productivity

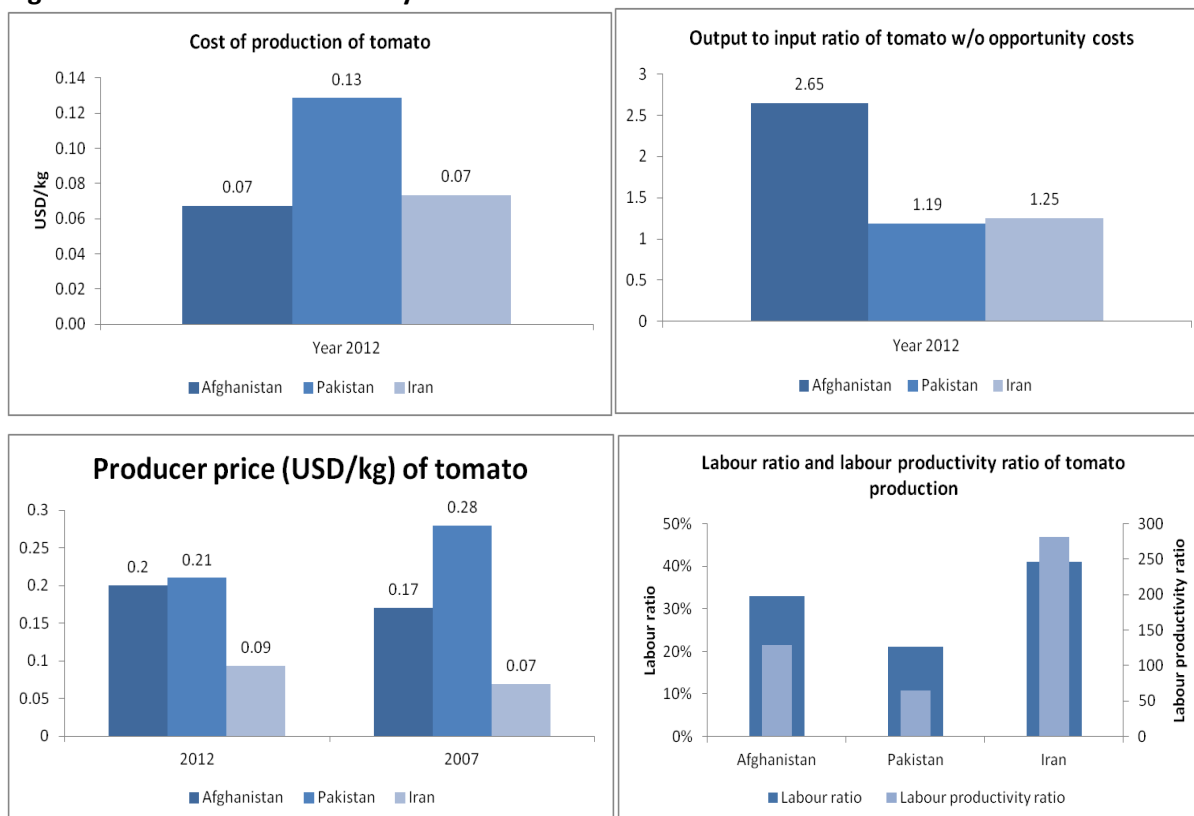
There are hardly any data available for tomato production in Afghanistan. When a comparison is made between Pakistan and Iran, the latter is far ahead in all categories - production, area coverage and yield (figure 4.41).

⁵⁷ The calculation of the average annual growth rate of Iran's exports of tomato paste excluded the outlier years.

Figure 4.41. Production, area coverage and yield comparison of rice in Iran and Pakistan, 2012

Source: FAOSTAT

The production cost is the highest in Pakistan, while it is at the same level in Afghanistan and Iran (figure 4.42) - yet Afghan farmers enjoy a higher output-input ratio by far. In terms of the producer price, Iranian farmers receive a much lower margin, which is obviously attributable to the lower output-input ratio. It is understood that farmers keep producing tomatoes because of their higher yield, although their unit profitability is much lower. In terms of the labour ratio, this is the highest in Iran - followed by Afghanistan. However, as the yield is the highest in Iran, it is not surprising that the labour productivity ratio is the highest in this country.

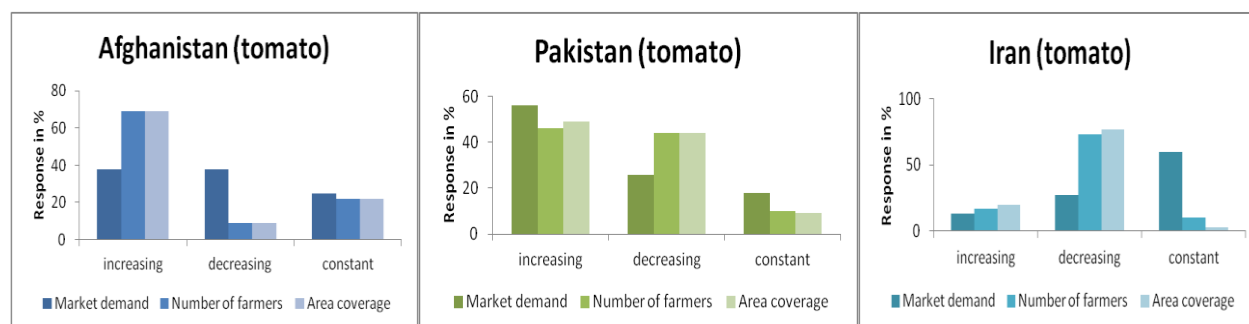
Figure 4.42: Production efficiency status of tomato in the three countries

4.4.6 Farmers' perceptions

In Afghanistan, 38 per cent of farmers are of the opinion that the market demand is increasing, whereas the same percentage of farmers believes the opposite (figure 4.33). Twenty-five per cent of the farmers feel that the demand is constant. However, the majority of the farmers (69 per cent) believe that both the area coverage and the number of farmers are on the increase. With such a mixed picture of market demand, the farmers' perceptions are not clear. This confusion about the demand for the Afghan farmers' produce is most likely due to the increased price competitiveness of Iranian tomatoes (figure 4.31).

In Pakistan, 56 per cent of the farmers believe that demand is increasing, although 44 per cent perceive that the number of farmers and extent of area coverage are on the decline - in contrast to farmers who feel that there is an increasing trend for these two parameters (46 and 49 per cent, respectively)(figure 4.43). Nonetheless, the overall trend shows an increase. In Iran, FAOSTAT data show that there is growing trend in production resulting from both an increased area coverage and yield. The farmers' perceptions that there is a declining trend in area coverage and number of farmers can only be explained by their low profit margin, as reflected by the output-input ratio (figure 4.42).

Figure 4.43. Farmers' perceptions about the growth of tomato production in the three countries



4.5 Potatoes

Section summary: There are many countries in the region which are strong in the global export market such as Pakistan, Turkey, China, India and Iran, many of which with high growth rates fueled by their lower price than that of global average. Afghan potato exports grew fast as well, but its export volume was far smaller than other exporters. With the price moving towards higher end among the regional competitors, the future of Afghan potato sector becomes bleak. *In contrast, Iran gained the most and, by 2012, it had taken over the price leadership from Pakistan. The situation reflects the trade patterns of these countries - Afghanistan's exports to Pakistan decreased to an insignificant level, while imports from Pakistan increased to over USD 88 million in 2012. By gaining the most price competitiveness amongst the three, Iran's exports to both Pakistan and Afghanistan increased significantly in the two or three years leading to 2012. Afghanistan's low potato yield accentuated its falling price competitiveness, while Iran benefited from the highest production yield per unit. Afghanistan's production declined because of its reduced yield, as the area coverage remained more or less constant.*

Table 4.10: Varieties studied - Potatoes

_(bold-italics indicate the variety used for price graphs)

Country	Variety	Commercial Features
Afghanistan	Sabzgul	The differences in the varieties are mainly agronomical, and the price varies according to freshness, appearance and seasonality. They mostly command the same price in the market. Only red potatoes are specifically used for the manufacture of potato crisps.
	Safeedgul	
	Red potato	
	Samadi	
	Casium	
	White potato	
	Turkmenistani	
Pakistan	<i>Caroda</i>	<i>Red colour, easy to peel, early harvest, longer storage life, larger size, predominantly used as table potatoes.</i>
	Asterix	Elongated oval shape, deep red colour, used for longer storage.
	<i>Paramount</i>	<i>Whitish in colour, low in starch, good for making potato crisps, predominantly used for the processing and fast food industry.</i>
	Desiree	Red colour, oval shape, used as table potatoes.
	Cardinal	Medium red colour, good for processing.
	Lady Roseta	White colour, used for the making of French-fried potatoes and crisps, as well as other processed products recently introduced by the food processing industry.

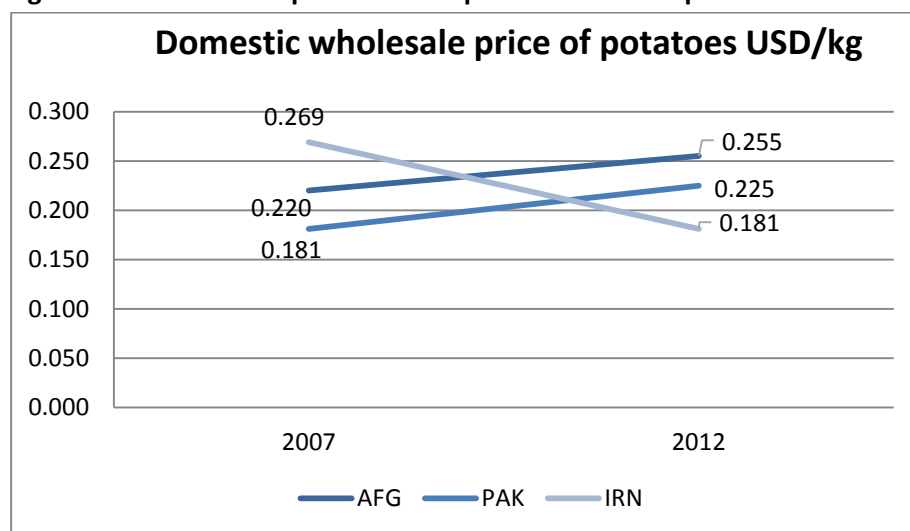
Iran	Marfuna	<i>Requires less irrigation, shorter harvesting time and a high yield.</i>
	Agria	Strong resistance to disease.
	Fontana	High demand from factories producing French-fried potatoes.

Note: Imported varieties are multiplied in Pakistan with commercial features distinguishing between potatoes that belong to either the white or red potato categories. The prices vary mainly according to seasonality and the size of the tubers. The same applies in Iran. Afghan farmers use their own retained seeds and the price in the market is mainly driven by seasonality and freshness/appearance.

4.5.1 Wholesale price and trend

The domestic wholesale price of locally produced potatoes in Afghanistan was 0.220 USD/kg in 2007 and 0.255 in 2012; 0.181 USD/kg in 2007 and 0.225 USD/kg in 2012 in Pakistan; and 0.269 USD/kg in 2007 and 0.181 USD/kg in 2012 in Iran. Iranian potatoes gained the most price competitiveness during this period, while Afghan potatoes lost the most (figure 4.44).

Figure 4.44. Wholesale price trend of potatoes for local produce in 2007 and 2012



4.5.2 Current retail price mapping

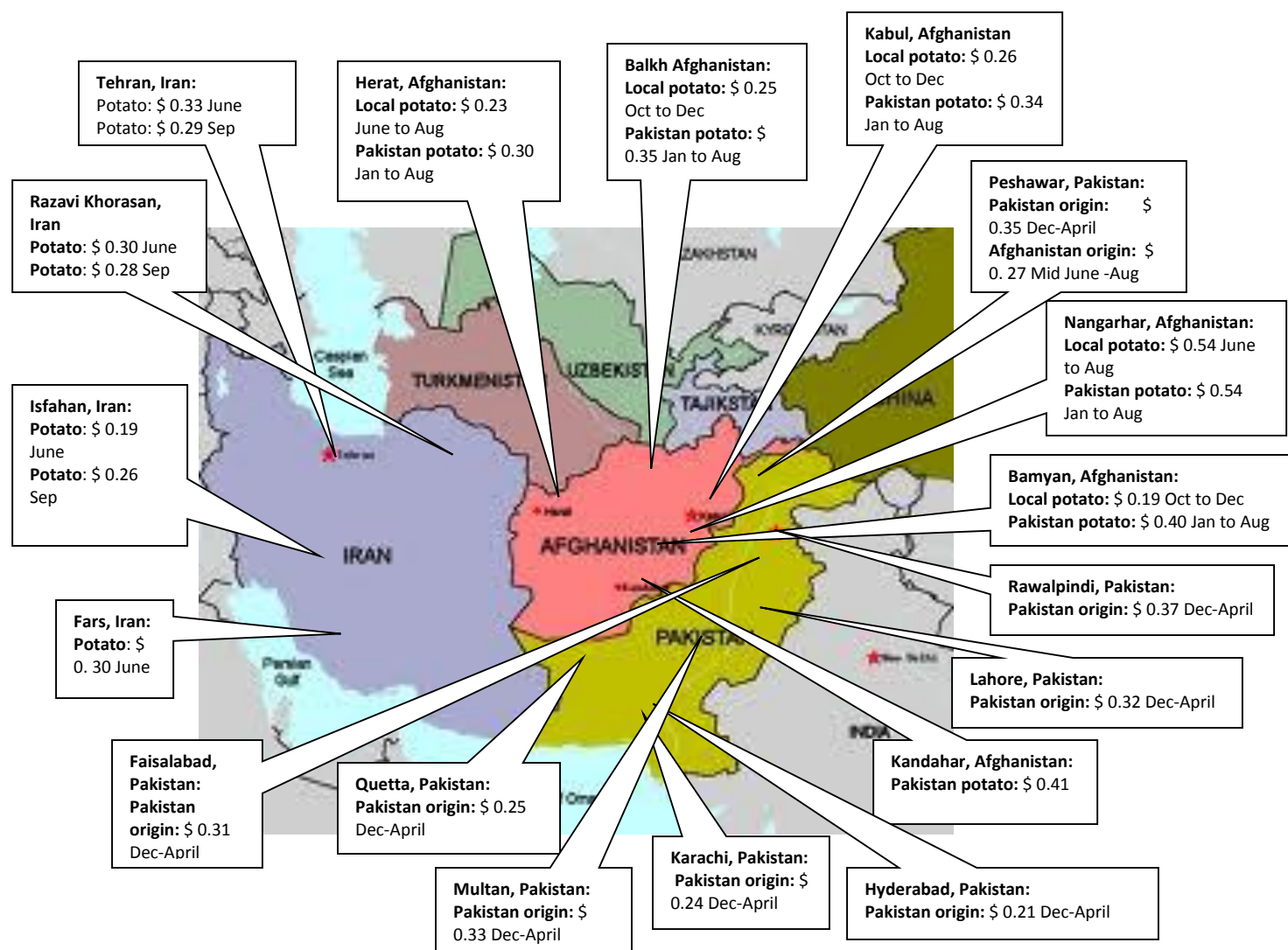
All three countries produce potatoes on a large scale, although production is often concentrated in specific areas. For this reason, even the retail price of domestic production varies from province to province (figure 4.45).

Afghan potatoes are price-competitive compared to imports (mainly from Pakistan) in the domestic market during harvesting time. Afghan potatoes are mostly available from October to December; after this period their yield declines. Pakistani potatoes start entering the market immediately after this, and are present for the rest of the year - initially for a few months as fresh or then stored potatoes. The price

of local potatoes varies from about USD 0.19-0.26 per kg during the harvest season to around USD 0.30-0.34 per kg for the rest of the year. The price in Nangarhar is always higher than that in other areas of Afghanistan - irrespective of whether they are local or imported potatoes. Local potatoes prevail on the Pakistani market and their price is in the same range as those sold in Afghanistan. Iran also produces a large amount of potatoes and stores them for year-round use. The price varies from USD 0.19 to 0.33 according to availability at different times of the year. In Pakistan, Peshawar imports Afghan potatoes during Afghanistan's harvest season. In the rest of the country, Pakistani potatoes predominate and their price varies from USD 0.21 to 0.37, depending upon availability from the nearer production clusters.

As a general rule, each individual country is price-competitive during its harvesting season. While Iran and Pakistan consume their local produce throughout the year (cold stored), Afghanistan has to import from Pakistan once its local production is finished as it does not have cold storage facilities to store potatoes throughout the year.

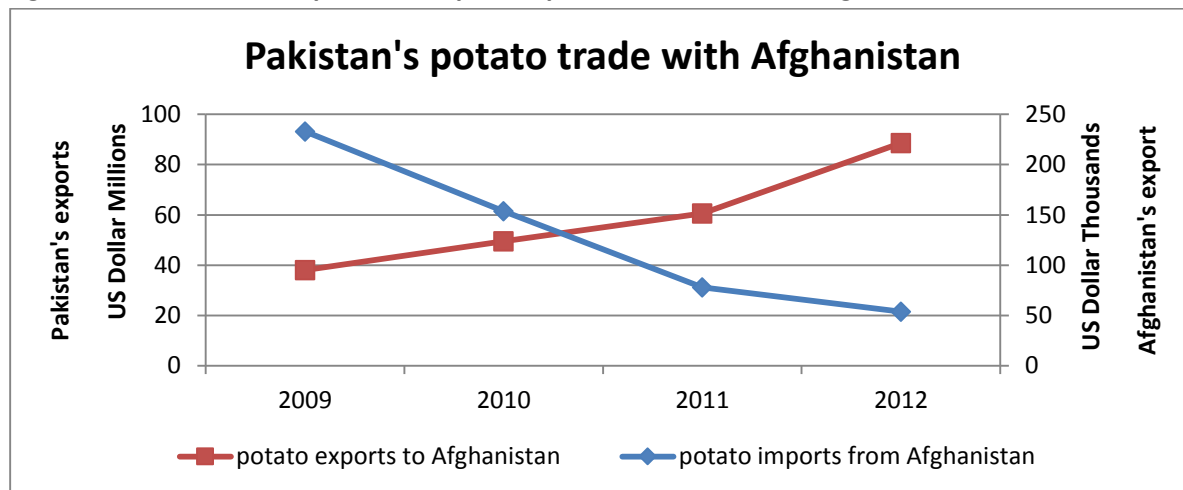
Figure 4.45. Potatoes retail price (USD per kg) in the major cities of Afghanistan, Iran and Pakistan



4.5.3 Trade among the three countries

According to Pakistan data, Pakistan's export of potatoes to Afghanistan increased by more than 100 per cent from 2009 to 2012, while Afghanistan's export to Pakistan dropped to one-fourth. In addition, Pakistan's export of potatoes has always been much higher in terms of value than that of Afghanistan (figure 4.46).

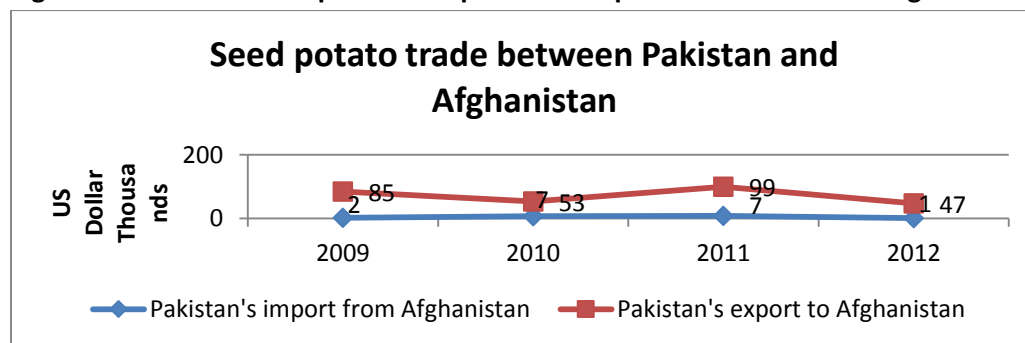
Figure 4.46. Pakistan's export and import of potatoes to and from Afghanistan



Source: Pakistan Customs data

The trade in seed potatoes is somewhat erratic - but here too, Afghanistan is at a disadvantage. Pakistan's export of this product has always been higher than that of Afghanistan (figure 4.47).

Figure 4.47. Pakistan's export and import of seed potatoes to and from Afghanistan

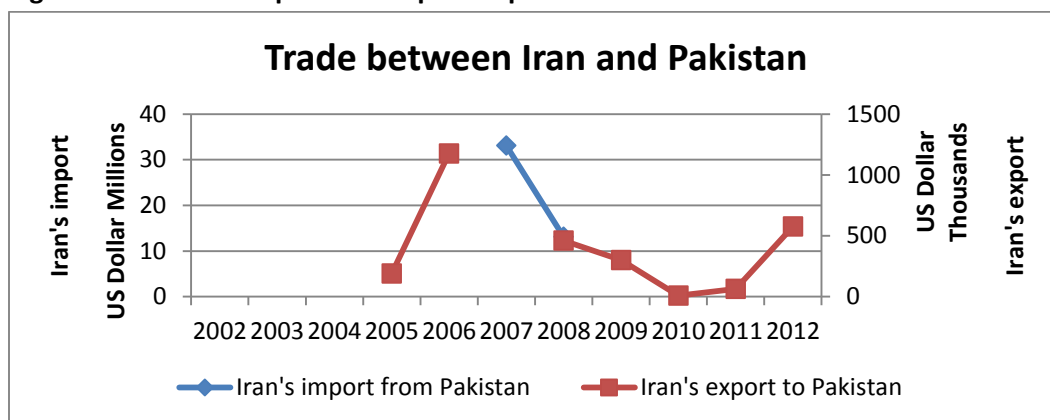


Source: Pakistan Customs data

Iran Customs data show an interesting pattern of the potato trade with Pakistan. In 2007 and 2008, Iran imported potatoes of high value - but before and after these two years, Iran exported potatoes to Pakistan that were much lower in terms of value than the ones they imported during this particular period. This change in the trade pattern may be attributed to Iran's increase in price competitiveness (figure 4.44).

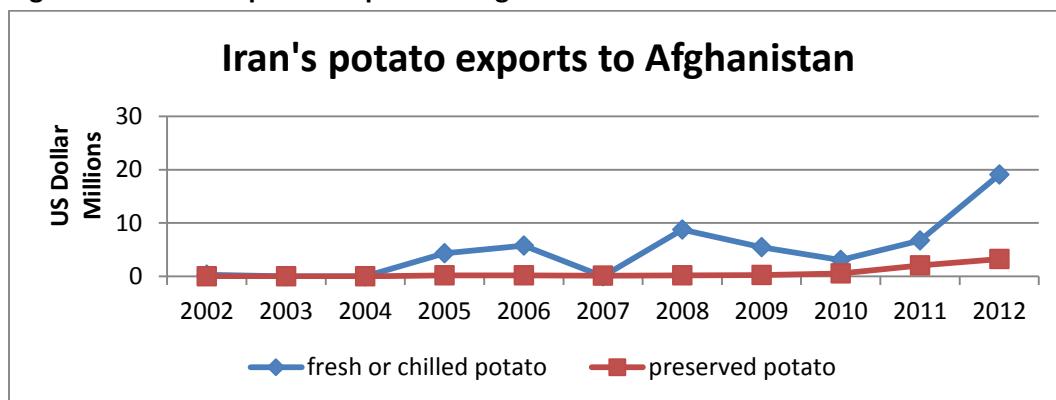
There has been a clear increase in exports to Pakistan since 2011 (figure 4.48a). Iran's exports to Afghanistan are also growing (figure 4.48b).

Figure 4.48a. Iran's export and import of potatoes to and from Pakistan



Source: Iran Customs data

Figure 4.48b. Iran's potato exports to Afghanistan



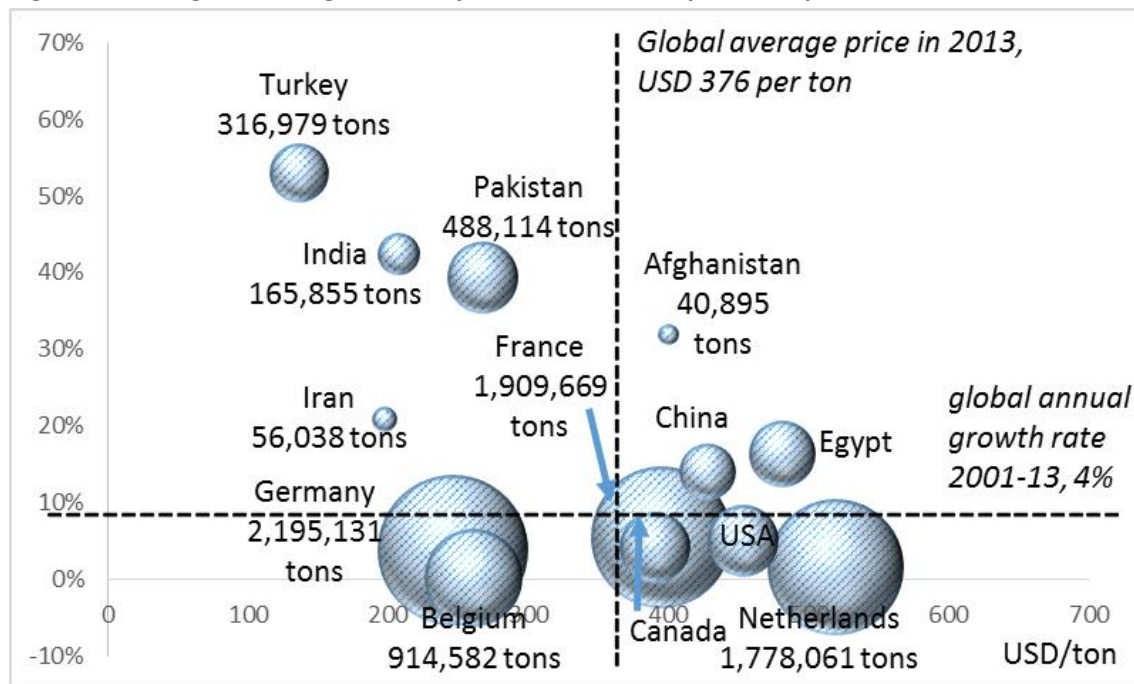
4.5.4 Global trade scenario

While the global potato exports are led by Europeans (Germany, France and Netherlands), the countries around Afghanistan are also strong players with much higher rate of growth than the Europeans. During the period 2001-2013, Pakistan was in a leading position among the regional countries, followed by Turkey, China, India and Iran (figure 4.49). Turkey had the highest growth rate (53 per cent as average annual growth rate of 2001-2013), followed by India (42 per cent), Pakistan (39 per cent), Iran (21 per cent) and then China (14 per cent).⁵⁸ The export price of 2013 has been much lower than that of global average (USD 376 per ton) for Turkey (USD 136 per ton), Iran (US 197 per ton), India (USD 208 per ton) and Pakistan (USD 267 per ton). Afghanistan exports a limited volume of potatoes (only 40,895 tons in 2013), but with a higher price tag (USD 400 per ton) than the global average - and at a high growth rate

⁵⁸ Outlier years of Pakistan, Turkey, Iran and Afghanistan have been excluded in calculating the respective average annual growth rate of 2001-2013.

(32 per cent) although its export volume has fluctuated a lot between several thousand tons and tens of thousands tons.

Figure 4.49. Regional and global competitiveness in the potato export market

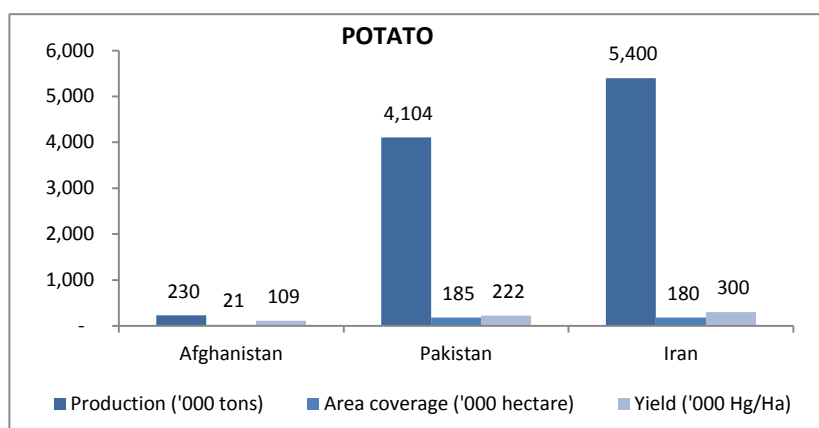


Source: Elaborated from FAOSTAT data

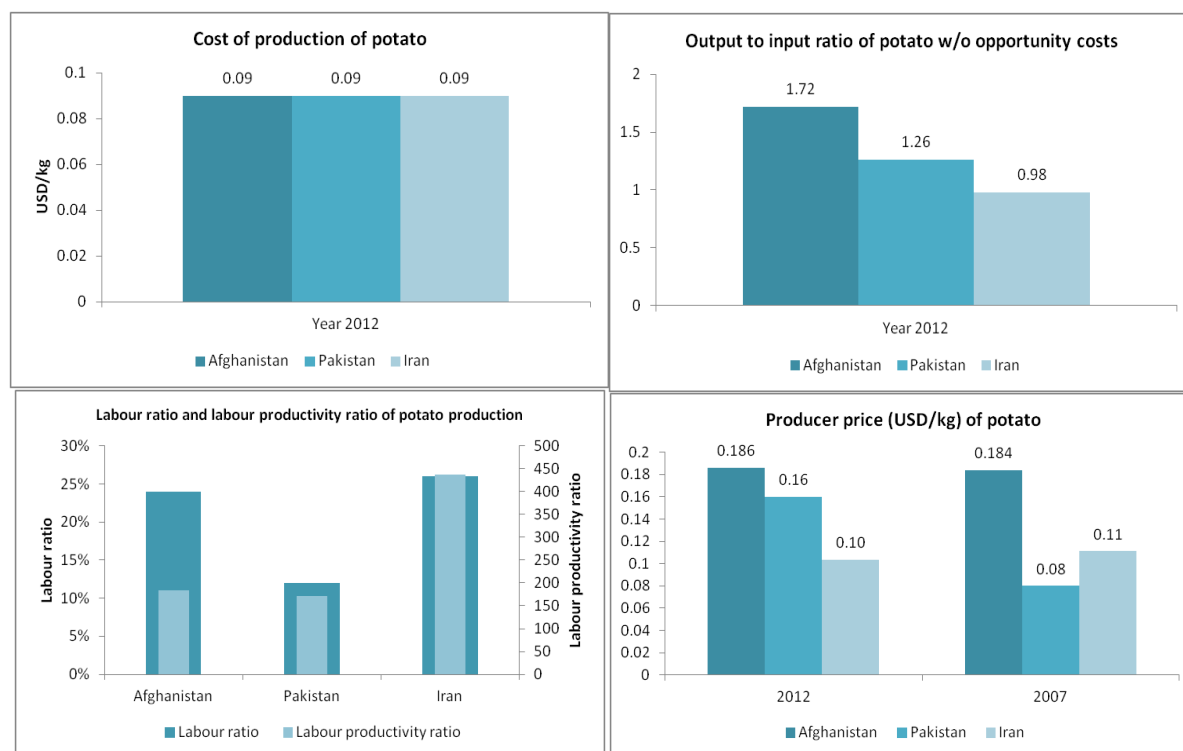
The future outlook of Afghan potato sector seems bleak under this regional competition situation. As shown in Figure 4.44 earlier, Iranian potato became cheapest among three countries by 2012, making Afghan potato most expensive. Afghan potato used to find exports market in Pakistan due to different harvesting seasons, but its export volume has been declining while Iranian potato has gained price competitiveness and increased exports to Afghanistan and Pakistan. The Afghanistan import market has not been influenced by potato from Turkey nor India, but their lower cost exports may also penetrate Afghan market in future depending on the progress of the transit agreement and other means to reduce the transport cost.

4.5.5 Local production and productivity

Among the three countries, Iran produced the highest amount of potatoes in 2012, followed by Pakistan (figure 4.50). The yield in Afghanistan was significantly low compared to that of the two other countries. FAOSTAT data also show that Afghanistan's production is declining. While its area coverage remained more or less the same, its declining yield affected overall production.

Figure 4.50. Comparison of production, area coverage and yield of potatoes in 2012

Source: FAOSTAT

Figure 4.51. Production efficiency status of potatoes in the three countries

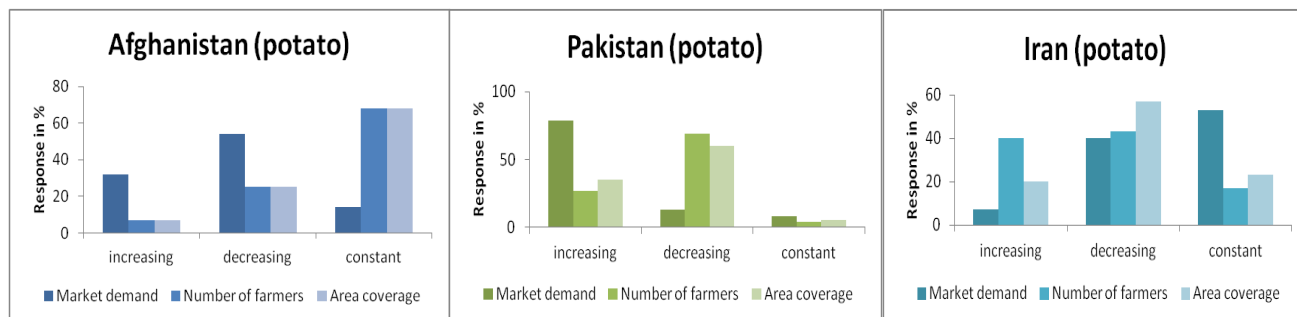
The production cost of potatoes is exactly the same in all the three countries (figure 4.51). Afghan farmers enjoy the highest output-input ratio, followed by Pakistani farmers. Iranian farmers seem to be making a loss as the ratio is less than one. When producer prices are taken into account, it may be seen that Iranian farmers are experiencing a decline compared to 2007. The production cost of 0.09 USD per kg and a selling price at 0.10 USD per kg, with an output-input ratio of 0.98, means that after adding the marketing costs, the Iranian farmers are actually losing money. The data for Iranian potato farmers may be skewed as the

FAOSTAT data shows that Iran continuously increased its potato production - not only with larger area coverage but also an increased yield. This situation does not tally with farmers losing money.

4.5.6 Farmers' perceptions

In Afghanistan the overall farmers' perceptions are fairly clear (figure 4.52). The majority of the farmers (54 per cent) see a declining trend in demand for their produce. Only seven per cent believe that there is an increase in the number of farmers or in area coverage for potato cultivation. The rest see a constant (68 per cent) or declining (25 per cent) trend. Local production growth is clearly declining in Pakistan. Sixty-eight per cent of the farmers believe that the number of farmers is decreasing, while 60 per cent perceive a decrease in area coverage – yet the majority of the farmers (79 per cent) see an increase in demand. As revealed in the previous section of the report, it is clear that potato farmers in Pakistan are grappling with low profitability. Pakistan is still competitive in international trade, and the farmers' estimate of demand matches this scenario. However, low profitability explains why the farmers believe that there is a decrease in land coverage and in the number of farmers. In Iran, the majority of the farmers believe that market demand is constant, while they consider that the other two parameters are mostly on the decline. As mentioned in the previous section, the farmers' response does not conform to the broader picture of competitiveness – or to the overall domestic production trend gathered from a secondary source.

Figure 4.52. Farmers' perceptions about the growth of potato production in the three countries



Chapter

5

Chapter summary: Commercial farm households are in a better financial situation in terms of income and expenditure than non-commercial farm households. However, in the case of non-commercial farms, the major share of their income comes from sources other than agriculture; indeed, their income from agriculture is relatively low. This dichotomy indicates that agricultural development alone will not bring a solution to the employment challenges of subsistence and semi-commercial farm households. The indebtedness situation of the farm households studied was alarming, with the exception of commercial level farms. As far as the school-to-work transition of young people is concerned, there appears a dividing line between high school graduates and those who continue with further studies, on the one hand, and the less educated, on the other.

5. FARM HOUSEHOLDS – THEIR FINANCIAL ASPECT AND LINK TO THE LABOUR MARKET

5.1 Afghan agriculture and farm households⁵⁹

This section examines the nature of Afghan farm households⁶⁰ and attempts to understand their coping strategy in the light of developments in the agricultural sector as a whole. For this purpose, interviews were conducted with around 65 farm households from different provinces in Afghanistan. The “main report” has undertaken a quantitative analysis based on this small number of samples. However, this report tries to identify converging trends of the various dimensions of farm households based on a qualitative analysis, to avoid any bias that might arise from the small sample size.

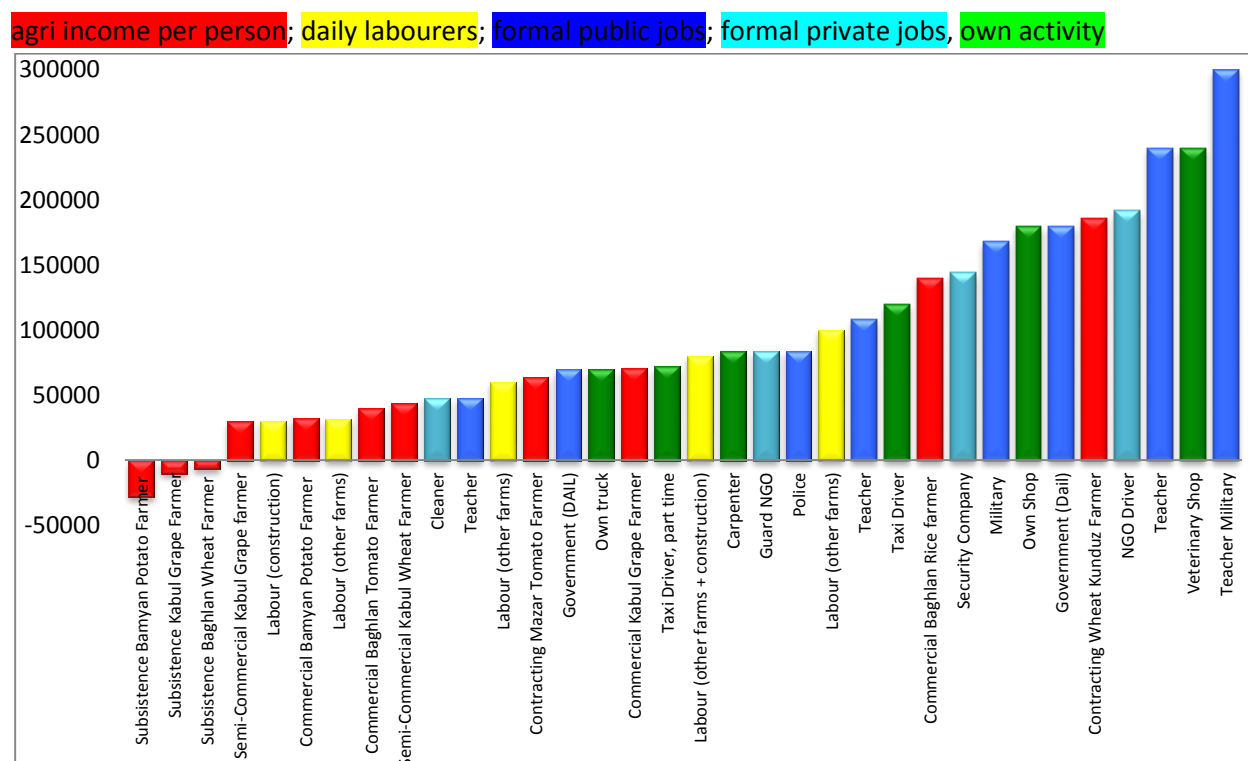
This analysis of farm households merits special attention because there is a widespread view that Afghanistan is losing its competitiveness in agriculture. Imports are increasingly taking a larger share in the domestic consumption market, while exports are facing fierce competition from other countries. Chapter 4 provided a comprehensive view of Afghanistan’s overall competitiveness in selected value chains. A closer look at farm households is likely to shed some light on the way in which farmers in Afghanistan are coping with the changed situation. Even in a competitive sector, farming may not provide enough income compared to other jobs, which may drive the new generation away from farming.

5.1.1 Agricultural income vs. income from other sources

It was found that most farm households, irrespective of their farming practices (subsistence, semi-commercial or commercial), earn income from multiple sources. Many members of these households only find temporary work for some days/months in a year. Some jobs provide a stable income throughout the year, but others are seasonal or fluctuate considerably. For comparative purposes, annual income from a particular activity has been used as the measurement unit.

⁵⁹ This analysis has been conducted only for Afghanistan and not for the other two countries referred to earlier in the report. Hence it was not possible to develop a comparative picture.

⁶⁰ Households: referred to in the various figures and tables as HHs.

Figure 5.1. Varying levels of income by occupation in Afghanistan (per person annual income in Afs)

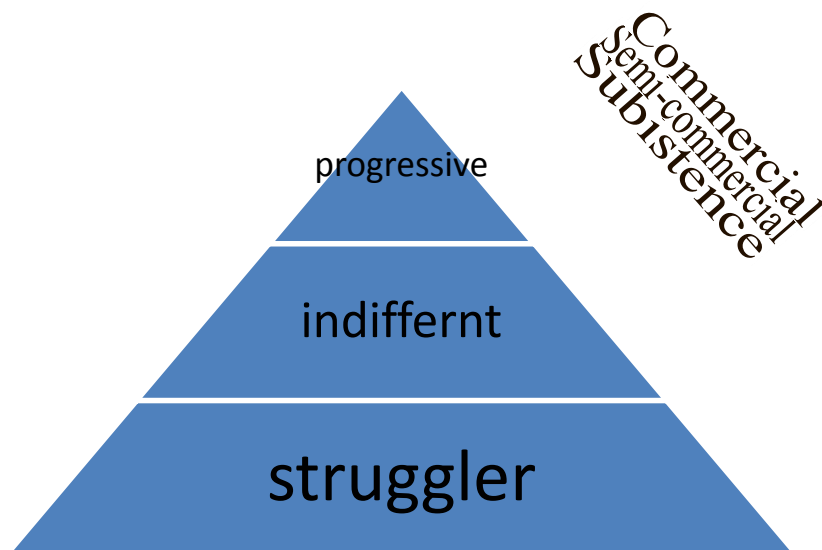
As may be seen in figure 5.1, only commercial farmers earn a significant income (but which is still lower than many other formal and informal jobs). Even daily labourers earn a higher income than subsistence or semi-commercial farmers. With respect to income, only commercial farming is therefore comparable to some extent to informal jobs, while subsistence and semi-commercial farming are not. However, it must not be forgotten that underemployment is more acute than unemployment in Afghanistan. These “other jobs” are not readily available and they are also periodic. Besides, the activity of most farm households is such (small land size and mostly one/two crops a year) that they can easily spare some of their family members to work on other jobs from time to time.

5.1.2 Farm households typology and their features

Agro-ecological and irrigation facilities vary significantly in different parts of Afghanistan. For example, in the Central Region (CR) and Central Highland Region (CHR), agricultural land is mostly single-cropped, while in the Northern Region (NR) it is both single- and double-cropped. In some parts of the Eastern Region (ER), even three crop cycles are visible. Hence, the cropping intensity is a strong determinant for year-round income. The composition of farm households (family members, their education, jobs, etc.) also strongly influences the overall household income. However, on the basis of the findings on the selected regions in Afghanistan, it may be observed that there are, generally speaking, three different types of farm household under each category of subsistence, semi-commercial and commercial farms. These three sub-categories may be referred to as “progressive”, “indifferent” and “struggler”. Classifying a farm household as “progressive” is not linked to its farming income but to its overall financial status. This also applies to the denominations of “indifferent” and “struggler”. As a pyramid model suggests (figure 5.2), “progressive” farmers belong at the top of a pyramid (these are in the minority) and

“strugglers” are at the bottom – and they are in the majority. The “indifferent” farmers are placed in the middle of the pyramid.

Figure 5.2. A pyramid model describing the typology of farm households



Subsistence farm households

In the case of subsistence farm households, wheat and/or rice constitute their main agricultural crops, which is understandable because both of them are staples. If they add crops, these can vary. These tend to be potatoes and alfalfa (livestock fodder) in the Central Highland Region and grapes in the Central Region. In the Northern Region, wheat and rice grow in two consecutive cycles where possible, or wheat is cultivated one year and rice the next.

Subsistence-progressive farm households

A farm household involved in subsistence farming only seems to progress financially when it has one or more family members earning a good income from sectors other than agriculture. These households hardly consider agriculture as a major source of income. Elderly family members supervise the farm activities with a minimum effort, merely to utilize the land resources. In most cases, the household has either educated family members (up to university degree) who work in the formal sector, or who are involved in business or both. Usually, these families place value on their children's education and send them to school, better manage their income and expenses, and practise a savings culture. Their financial literacy is good enough to balance their income and expenditure. They are not burdened with outstanding loans and their total annual income is significantly higher than expenditure. They usually purchase agri-inputs in cash. Income from agriculture accounts for only a limited share in the family's income.

Subsistence-indifferent farm households

These households also rely to a significant extent on other sources of income alongside their agricultural income, which only provides for a limited share of their total family income. Daily labour in urban areas or in other farm fields constitutes a major source of this additional income, although it is periodic. Remittances - when one or more family members work as daily labourers in neighbouring countries – also play a vital role. Some members also work in the formal sector in jobs that do not require a high level of education, such as the lower ranks of the Afghan military or police. The overall financial literacy level is basic and very often the family has at least one outstanding loan. The savings culture hardly exists.

Subsistence-struggling farm households

This is the most common type of subsistence farm household in Afghanistan. These families either do not have enough adult male family members to work in other sectors to balance their expenses with their income, or – more often than not – the head of the household himself works periodically as a daily labourer or in another low-paid supplementary job (such as a night guard). These families usually have multiple outstanding loans and their overall family expenditure is higher than income. Financial literacy is at the very basic level. One of their major coping strategies is to sell assets such as livestock.

Semi-commercial farm households

Semi-commercial farm households tend to grow crops other than staples, such as vegetables or fruits (box 5.1).

Semi-commercial-progressive farm households

Unlike subsistence-progressive farm households, income from agriculture is still a major source of income for such households. Consequently, the level of education of its family members is not as high as those in subsistence-progressive farm households. But if young members of the family attain a medium level of education (12th grade), they may find a job in low-ranking jobs in the formal sector, such as the police, military, and private security companies. Usually, more than two members earn for the total family, and the total family income therefore exceeds total expenditure. They also have a savings culture but save at home rather than in commercial banks. They usually do not borrow money from others but tend to lend to them. They occasionally buy food items from local shops on credit - but never agri-inputs on credit. Their financial literacy level is high and they have a savings culture.

Semi-commercial-indifferent farm households

Semi-commercial-indifferent farm households have a wider range of characteristics. Agriculture accounts for a significant share of their overall household income - one-third to more than half. The current level of education of family members is secondary grade (maximum). If there is not more than one earning member in the household, the total family income is made up of multiple income-earning sources. The income-expenditure ratio remains close to one. Other major occupations are daily labour (farm and construction work), but these are in the vicinity; the family members do not migrate to other places. The financial literacy level is contingent upon the education level of the head of the household – ranging from basic to high. The families often take loans through informal channels and buy food on credit, but they pay for agri-inputs in cash by borrowing money from others. They have one or more outstanding loans and the savings culture does not exist.

Semi-commercial-struggling farm households

Agricultural income accounts for a significant share of the overall household income. The household members' current education status is not very high (secondary grade). These families usually have multiple adult male family members and they work as agricultural labourers (in other farms). However, as this work is seasonal, their contribution is limited. The income and expense situation of these households puts them in a negative balance and they often have multiple outstanding loans. Sometimes, they take loans (informal sources) to repay others. Financial literacy is basic and the savings culture hardly exists. They buy food items on credit but agri-inputs in cash by borrowing money from friends or relatives.

Box 5.1. Household financial dimensions of semi-commercial farmers (HH 1 - struggler; HH 2 - indifferent; HH-3 - progressive)

a. Income portfolio

Income Portfolio	Semi-Commercial Farmer Typology					
	Farmer 1		Farmer 2		Farmer 3	
Revenue Crop A	45000	Wheat	13000	Potato	18000	Tomato
Revenue Crop B		Vegetables		Wheat	60000	Grape
Revenue Crop C				Alfalfa		Wheat
Self Consumption A	55000		10000		5000	
Self Consumption B	20000		9600		10000	
Self Consumption C			14000		25000	
Agricultural Expenses	48000		17200		25000	
Net Income Main Crop	-15520		-6650		-8875	
Total Agricultural Income	-3000		-4200		53000	
Net income by family member involved	-1500		-1400		53000	
Extra Source of Income A	24000	Labour farms	27000	Selling livestock	192000	Driver NGO
Extra Source of Income B	24000	Son Labour farms				
Total INCOME	168000		73600		310000	
Total Expenses	198100		76040		180200	
Income - Expenses	-30100		-2440		129800	

HH 1 provided a very clear example of semi-commercial farmers who struggle. This particular farmer had 6 jeribs of wheat and 1.5 jeribs of vegetables. As a large share of his production was used for self-consumption purposes, the money he received for selling wheat in the market did not offset the total production cost. He therefore had a negative net income from his agricultural production. The only possibility of earning an additional source of income was for the head of the household and his son to carry out daily labour on other farms. They would have been able to work for more days but no farm needed their input. With no income from the household's own land and these very limited sources of extra income, it is not surprising that the total expenses of the HH were higher than its income, leaving it in a very vulnerable situation.

HH 2 is placed in the middle of the pyramid because its income portfolio puts it in the category of a semi-commercial-indifferent farmer. This farm had 3 jeribs of land, distributed equally between potatoes, wheat and alfalfa. The only product they sold last year was potato, while the rest of the production was used entirely by the family. The alfalfa was used to feed the livestock. As expected in this kind of HH with a high volume of self-consumption, the agricultural income could not cover agricultural expenses. The family therefore had to sell livestock frequently to cover expenditure. Last year they sold three sheep and three goats. As there are only four members in the HH (since four daughters left home in the last few years), the volume of expenditure was relatively low, and they were almost able to cover all their expenses with their income.

HH 3 is at the top of the typology pyramid because it might be considered as a semi-commercial-progressive farmer. This farmer did not have a big piece of land, only 4 jeribs, on which he grew: 0.5 jeribs of tomatoes, 1.5 jeribs of grapes and 2 jeribs of wheat. While all the wheat was used for self-consumption, the biggest proportion of grapes and tomatoes was sold in the market. Furthermore, this HH had a very important source of income, as the head of the HH's brother worked as a driver for an NGO in Kabul. This total income was enough to cover all the expenses last year, and the family was able to save some money in the local bank. When comparing this situation with the past, the head of the HH highlighted that the total income had increased thanks to the extra sources of income, but that the agricultural income had been decreasing, as the grapes price had not increased in proportion to the price of the inputs used.

b. Labour mobility and educational levels

HH 1 showed very low levels of education among its members. None of the women of the HH have ever had a formal education, and the situation was not much better for the men. Only one brother had reached 7th grade. There was no labour mobility of any type in this HH, as the daily labour was carried out on nearby farms.

HH 2 This HH also had low levels of education. The head and the wife had no formal education at all, and among the children, one son had completed 11th grade and the daughter had had no education, as previously there had been no school for girls in this community. No labour migration at all was detected in this HH.

HH 3 The level of education of this HH showed clear differences between men and women. While the head of the HH had been able to complete 9th grade, his wife had not had any access to education. As for the children, all the sons were attending school, while their sisters were not - as the head of the HH stated that their school was too far from where they lived and their help was needed at home. It was recognized that the school could play a role in broadening the economic opportunities of the HH. As the job with the local NGO was in Dehsabz, there was no labour mobility detected in this case either.

c. Financial dimensions

HH 1 This HH did not have enough income to cover its expenses. The family's usual way of covering this gap was by borrowing money from their circle of relatives, at no interest, with the promise of paying the loan back when the agricultural harvest was sold. As a lack of cash was a constant situation for this HH, it did not have enough money to buy inputs at the beginning of the cropping season. This is why the HH had to buy all the inputs on credit at a higher price. The head of the HH highlighted that this was a good option to have, but as he did not want to have large debts, he bought the cheapest fertilizer he could find in small quantities, pushing him into a cycle of low yields and low income every year. He also bought food on credit for his HH. He acknowledged that the way to improve would be to have a bigger plot of land, and more money for buying better inputs - but he had no money to do so, which is why he faced the same challenges every year. He had no access to FSPs, no contracting agreements and no financial education.

HH 2 As noted above, this HH was close to breaking even when it came to total income and expenditure. However, the head of the HH was not very happy about having to sell his livestock. The main problem was that he usually lacked cash to buy inputs as the HH's cash flow was very tight. He therefore usually bought fertilizer that was 10 per cent more expensive because he needed to buy it on credit. He usually repaid his debts with the shopkeeper as soon as he had sold his agricultural production. He stressed that this was not a written rule but was the common way of doing business. The same applied when he bought food on credit from the shopkeeper - but in this case he said that the price was not higher. As this farmer leased two jeribs of land from his relatives, he said that he would like to save money to buy more land and become more sustainable. He did not know any formal financial provider and he mistrusted them because they used interest rates.

HH 3 This HH had a pretty stable cash flow, as it had a stable extra source of income. The surplus that the family had every year was earmarked for wedding celebrations. The head of the HH also stated that because the family had cash available, they preferred not to buy anything on credit and to depend on their own cash. In the past,

when he did not have his extra source of income as a driver, he used to borrow money from his relatives. He did not like formal financial providers as they charged interest rates. As he was now in a good position, he lent money to other villagers with no conditions. Despite the fact that he did not like banks, he kept his savings at the Kabul Bank for security reasons. Interestingly, this farmer had a fairly advanced financial literacy and kept track of income and expenses.

Commercial farm households

Commercial farm households grow agricultural crops with a view to selling to the market.

Commercial-progressive farm households

Within these types of households, three categories were observed. Commercial-progressive farm households include three different sub categories:

i. Fully agriculture-based

These households have larger areas of land and almost their entire income comes from agriculture. Although the young children go to school, the head of the family has little or no education. On account of the size of the farm and its commercial practices, the income from agriculture is high and covers all expenses - with some money remaining. However, the savings culture varies from family to family. It usually exists where the head of the household has had some level of education, but the savings are kept at home and not in banks. These types of farm households do not borrow money but rather give loans to others. In addition, they also sell part of their produce on credit. They buy agri-inputs in cash but sometimes food items on credit. It may be assumed that these credit purchases are made for the sake of convenience and not because of a lack of cash.

ii. Agriculture and trading in the same commodity

Mostly potato farming households belong to this category. Potatoes in Afghanistan are mainly grown in Bamyan province (CHR), and hence many potato farmers also work as seasonal traders. They have a higher financial literacy and a higher level of education. They also access formal financial institutions to take out loans.

iii. Agriculture and multiple incomes

These households have multiple income earners in the family - either in lower-ranking jobs in the formal sector (police, military or guard in NGOs) or in daily labour-based jobs on other farms or in construction. Although they produce crops commercially, agriculture alone is not sufficient to cover the family expenses. The savings culture exists when the head of the household has had some level of education - but savings are still kept at home. These types of households hardly ever borrow money but rather lend it to others.

Commercial-indifferent farm households

These households have often a large family with few income earners. Usually their income is not sufficient, or just enough to cover their expenses - and very often they have to borrow money from others and buy foodstuffs on credit from local shops. The financial literacy level is usually very low as a result of the head of the household's poor level of education. Agriculture alone cannot cover family expenses and other adult male members of the family work as daily labourers or in low-ranking jobs in the formal sector (security guard, military, police), or as low-paid school-teachers. The savings culture hardly exists, and the family often has more than one outstanding loan.

Commercial-struggling farm households

These households grow agricultural commodities on a commercial basis, but they have limited land to generate the income needed for the household expenditure. About half of the family expenses are covered by income from agriculture. Consequently, some family members have to search for other work and often migrate seasonally to large cities for daily labour-based jobs. These households have multiple outstanding loans and also buy agri-inputs on credit. The financial literacy level is usually low.

The following matrix gives a summary of different types of farm households

Table 5.1: Farm household (FHH) typologies and features

FHH TYPOLOGY	Progressive	Indifferent	Strugglers	Features
Subsistence	Very little	Little	High	Agri-income (including self-consumption) proportion to total HH income
	High	Medium to low	Low	Current education level
	More than two	More than two	Often single earner	Earning family members
	Formal jobs, business	Daily labour (other farms and construction), low-ranking formal jobs (in police, military, NGOs)	Daily labour	Other major sources of income
	Hardly any	Temporal/seasonal migration to other cities or long-term/permanent migration to other countries as daily labourers	Seasonal migration	Degree and type of migration
	Cash	Credit	Credit	Cash-credit mode of purchasing agri-inputs
	None	More than one	More than two	Number of outstanding loans
	Usually do not borrow money but prefer formal provider if required	Informal (shopkeepers, input shops)	Informal (input shops, shopkeepers)	Access to credit
	High	Low	Low	Level of financial literacy
	Yes	No	No	Culture of savings
Semi-commercial	Moderate	Moderate	High	Agri-income (including self-consumption) proportion to total HH income
	Medium	Medium to low	Medium to low	Current education level
	More than two (or two including a formal job)	One or two or multiple jobs	One or at best two	Earning family members/multiple jobs
	Low-ranking formal jobs	Daily labour (other farms or construction) or assets to liquidate	Daily labour (mainly other farms)	Other major sources of income
	None	None	None	Degree and type of migration
	Cash	Cash but by borrowing money from others	Cash but by borrowing money from others	Cash-credit mode of purchasing agri-inputs
	None	One or more	More than one	Number of outstanding loans

	Do not borrow money usually rather lend to others	Informal (borrow without interest, shopkeepers)	Informal (borrow without interest, shopkeepers)	Access to credit
	Medium to high	Basic	Basic	Level of financial literacy
	Yes	No	No	Culture of savings
Commercial	Varies. While fully agriculture-based has 100% income from agriculture, others have less multiple income sources, where agriculture income varies from very little to half of the total income.	Less than half	Around half	Agri-income (including self-consumption) proportion to total HH income
	Also varies. While young children go to school, HH heads have little/no education, or up to primary/secondary level.	Young children go to school but usually HH head has low level of education	Young children go to school but usually HH head has low level of education	Current education level
	More than one	More than one	More than one	Earning family members
	Trading, formal jobs, daily labour	Daily labour, low ranking formal jobs	Daily labour	Other major sources of income
	Very rare for economic reasons. Some members go outside the country for longer periods for vocational training or education.	Occasionally seasonal migration to large cities for labour-based jobs	Seasonal migration to large cities for labour-based jobs	Degree and type of migration
	Cash and credit as per convenience	Credit	Credit	Cash-credit mode of purchasing agri-inputs
	Varies. But is not imbalanced with income level.	More than one	More than one	Number of outstanding loans
	Both formal and informal	Informal	Informal	Access to credit
	Medium to high	Low to medium	Low	Level of financial literacy
	Exists but mostly at home	Hardly exists	Does not exist	Culture of savings

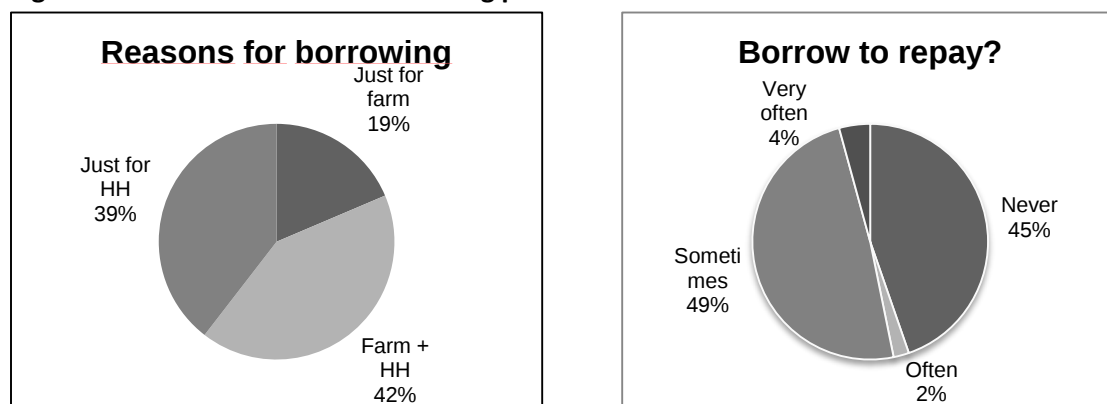
From the discussions on overall typology, some important conclusions may be drawn:

1. Three different types of farm households exist under all three categories of subsistence, semi-commercial and commercial farming - in terms of their economic situation (and irrespective of their farming pattern).

2. The income from farming alone is not sufficient to cover family expenditure with the current level of the households' financial management. The only exception is the category of commercial-progressive farm households (100 per cent of their income comes from agriculture). But it is noted that these households have larger areas of cultivable land.
 3. In general, the key drivers for a farm household's economic wellbeing are a higher level of education, formal jobs and multiple income earners in a family - and not only farming as such.
 4. Progressive farm households in the subsistence category have not been progressing on account of their agriculture but because of their family member/s' higher education and well-paid formal jobs. Agriculture is merely a major source of income for them.
 5. Migration (seasonal or long-term) is observed more in the "indifferent" and "strugglers" categories under all three types of farming patterns.
 6. The head of the household's level of education plays a strong role in household financial management. Under all three categories, the household heads of progressive farms usually have a higher level of education and thereby have better financial literacy and a savings culture. In most cases, however, the savings are kept at home.
 7. Both "indifferent" and "struggling" farm households have a high level of debt and multiple outstanding loans (the situation is obviously worse for the latter category).
 8. The main sources for obtaining credit and borrowing money are informal (shopkeepers, relatives, friends, etc.). Most farmers feel that the purchase of agri-inputs costs them more if they are bought on credit. Many therefore borrow money from others and then buy inputs in cash.
 9. Access to formal financial institutions is limited only to the progressive households.
- On the basis of the farm households' income pattern, the development of agriculture in general will help those farm households who belong to the "commercial" category, as a major share of their income comes from agriculture.

5.1.4 Poverty trap or upward mobility

The overall borrowing pattern of the farm households portrays an alarming picture. Around 80 per cent of the households borrow money for covering their family expenses, while only 19 per cent borrow money exclusively for farm management. The worst part is that around 55 per cent of households borrow money to repay other loans (figure 5.3), i.e., they are caught up in "debt-shuffling".

Figure 5.3. Farm households' borrowing patterns

Furthermore, the average outstanding loan of the households is around 27 per cent of their annual income, and this trend is constant or increasing - but not decreasing. As far as the savings culture is concerned, only about 17 per cent of households practise some sort of saving.

5.1.5 School to work transition

It was observed that the overall education of young persons is significantly higher than that of their parents and grandparents. As regards the children's involvement in farming, around 70 per cent of households reveal that children from these families combine their education with agricultural work.

In terms of job opportunities, the study revealed the clear dividing line between those who graduate from high school graduates and those who do not. Around 28 per cent of households remove their children from education before they reach 18 years of age, mainly on grounds of economic hardship. In the case of female children, religious reasons are paramount. Those who complete high schools are more likely to obtain formal jobs in teaching, the national police or army than those with lessor education. But, a significant portion enters into wage-, agriculture- or skills-based jobs if they fail to find employment in the formal sector – similar types of jobs in which the less educated cohort are employed. Further studies after high school usually lead to a well-paid position such as a government or NGO job.

Chapter

6

Chapter summary: Among all the value chain products except tomatoes, fertilizers and farm labour accounted for the two key cost elements that resulted in the eroded price competitiveness of Afghanistan's products between 2007 and 2012. Farmers in Pakistan and Iran enjoy subsidies for electricity and fertilizers, which Afghan farmers do not, but these subsidies do not appear to affect the relative competitiveness among the three countries. A poor farm yield of all products except grapes exacerbated this erosion in price competitiveness. Grape/raisin is a notable exception, where penetration into the high-end market and productivity gains appear promising for job-rich growth.

6. VALUE CHAIN DYNAMICS AND PROSPECTS

6.1. Value chain dynamics in the three countries

Section summary: The agricultural input market situation varies in the three countries under review. Both Iran and Pakistan subsidize the price of fertilizers by various means, whereas there are no subsidies in Afghanistan – which mostly imports them from or through Pakistan. The Governments of Iran and Pakistan therefore control the fertilizer market price, which has risen during the past decade, thus impacting negatively the agricultural input prices in Afghanistan. Farmers in both Iran and Pakistan receive a wide range of subsidies, although Iran's agriculture is becoming increasingly market-driven as opposed to subsidy-driven. Farmers in Afghanistan do not receive such subsidies.

As all the subsectors under consideration are agriculture-based - and most agri-inputs transcend these subsectors - the agri-input market is described for all three countries under review. Agricultural input markets have distinct features and operate differently in the three countries. Table 6.1 summarizes these differences.

Table 6.1. Input market comparisons across the three countries

Feature	Afghanistan	Pakistan	Iran
Subsidy on inputs	No subsidy on agri-inputs	Subsidies on nitrogenous fertilizer only - Urea	Subsidies on key fertilizers, but gradual decrease during the past five years and significant decrease in 2010 after adoption of the "Targeted Subsidy Act".
Local production of agri-inputs	Only one fertilizer manufacturing company (Government-owned)	Most of the fertilizers are locally produced by private fertilizer companies, which are regulated by the Government.	Urea fertilizer produced by both public and private fertilizer companies; sometimes it exports to other neighboring countries to a limited extent. However, other fertilizers (including phosphate and potash fertilizer) imported from other countries.

	No local production/repacking for formulation of crop protection materials	No local production	In recent years, many private companies have started producing and marketing organic fertilizers and crop protection materials due to Government promotion.
	Some local seed (wheat and rice) processing companies assisted by development projects with little market share through commercial channels.	Many national seed companies operate in the country.	Many national seed companies operate in the country to produce and market strategic seeds like wheat and rice seeds.
Imports of agri-inputs	Major share of national fertilizer demand is met by imports.	Government allows imports of fertilizers on a periodic basis to meet the local demand-supply gap and subsidizes these.	The main fertilizers other than Urea are imported by private sectors to supply to the local market and are subsidized by the Government.
	All crop protection materials are imported.	Many national and multi-national crop protection companies operate in the country – no production but reformulation and repackaging done by local companies	Many local crop protection companies operate in the country- no production but reformulation and repackaging only.
	Few seeds are commercially imported from outside, which include tomato seeds, wheat seeds (from Pakistan).	Many seeds are imported from outside, such as potato, tomato seeds, etc.	Seeds like tomatoes, potatoes and other vegetable seeds are imported by the private sector.
Control of government	Government has little control on the agri-inputs trade.	Government controls the fertilizer market and provides indirect subsidies.	Government controls the fertilizer market, but no direct control on crop protection and other inputs.
Import duty	Fertilizer 2.5%, crop protection 2.5%	Fertilizer 0%, crop protection 0-5%	Fertilizers 4%, crop protection 0%

In a nutshell, the Governments of Iran and Pakistan control the fertilizer market price, particularly that of Urea, and subsidize prices by various means for the benefit of farmers. In Pakistan, the Government supplies gas to the fertilizer factories at a subsidized rate. In general, during the past decade, the price of fertilizers has increased significantly in Pakistan, mainly due to the increased price of petroleum, higher transportation costs and the currency depreciation – all of which make imports costly. This has also impacted the price of fertilizers and other agricultural input prices in Afghanistan, as Afghanistan mostly imports them from or through Pakistan. Pakistan provides further subsidies to its farmers - for irrigation purposes and by ensuring a guaranteed purchase price for wheat. Government subsidies and support for farmers also exist in Iran. In general, the support for agricultural production in Iran may be classified into three categories: price support (guaranteed purchase price); agricultural inputs support (providing

subsidies for chemical fertilizers); and other supports (paying damages for droughts, provision of crop insurance and low-interest bank loans). Three of the products of interest (wheat, rice and potatoes) benefit from the guaranteed price policy. In 2010, the Iranian Parliament adopted the subsidies reform law (known as the Targeted Subsidy Act) as part of its broader Five-Year Economic Development Plan. As observed and opined by the industry people in Iran, the real impact of this Act began to be felt in 2012. The goal of this Plan is to gradually reduce subsidies on food and energy (80 per cent of total) and replace them by social assistance in the form of cash payments to compensate for the consequent rise in consumer prices. These payments are also made to industrial production units directly affected by the reduction of subsidies, such as flour mills and bakeries. That being said, Iran's agriculture is moving through a transformation from a subsidy-driven to a market-driven structure. Farmers in Afghanistan do not receive such subsidies.

6.2 Grapes/raisins value chain

Section summary: *Afghan raisins are competitive despite their high price, whereas grapes are not. The grapes/raisins market situation in Afghanistan mostly works as a market-based power structure. The country faces many constraints, but it could increase its yield and quality of grapes by, inter alia, adopting the trellis system and assisting current high-end markets to further penetrate the markets. This would also have an impact on significant job creation; around 5 million new working days could be created, equivalent to approximately 20,000 full-time jobs. In Pakistan, grape and raisins production is not a priority because of the deficit of fresh grapes. They are mostly grown for domestic consumption and a market-based power structure prevails. Iran still remains price competitive in the global grapes and raisins market, on account of the constant depreciation of its currency. A potential threat to its competitiveness is an increase in the price of agricultural inputs following a decrease in government subsidies.*

The current competitiveness situation in grapes/raisins for each country has been described in chapter 4. This section explains the value chain dynamics that have worked alongside the exchange rate/price issues, resulting in their current status. Afghanistan is described in greater detail - and only a synopsis is given for Pakistan and Iran (details in these two countries are contained in the main report). Value chain maps have been used as the core to explain the dynamics.

6.2.1 Afghanistan

Figure 6.1 shows the Afghanistan grapes/raisins value chain map, and figure 6.2 contains an overview of enterprises and employment in the subsector.

Figure 6.1. Grapes/raisins value chain map of Afghanistan

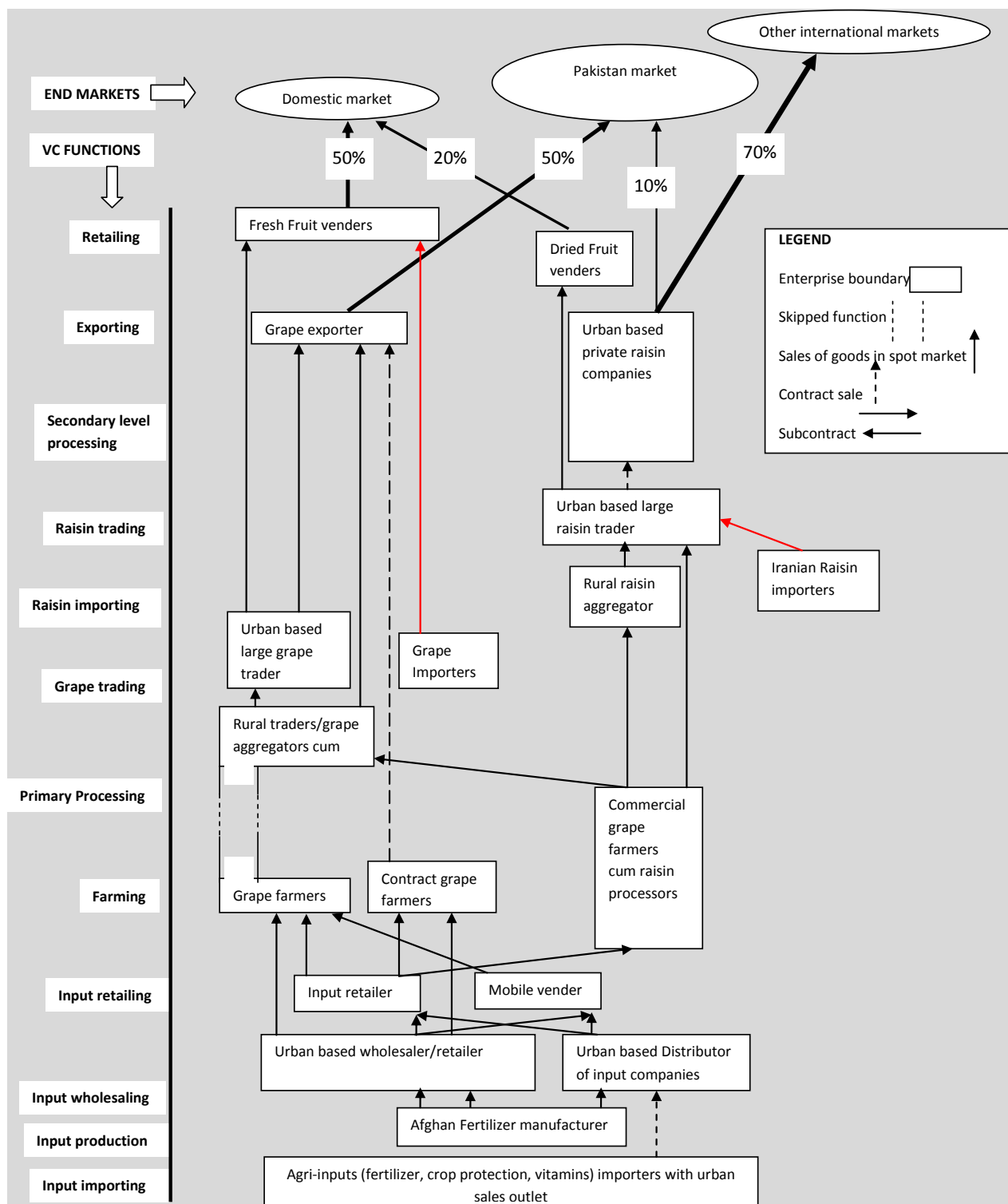


Figure 6.2. Overview of enterprises and employment in the subsector (N= enterprise, E=Employment, F=Female)

Export	Grape exporter N=65, E=3250, F=0%	Raisin exporter N=135, E=11,750, F = 0% (Kandahar) 50+% (Kabul & Mazar)		
Retail	Grape retailer N=3,000, E=3000, F=0%	Raisin retailer N=1,200, E=1200, F=0%		
Wholesale	Urban based grape wholesaler N=200, E=4000, F=0%	Rural grape aggregator N=500, E=5000, F=0%	Urban based raisin wholesaler N=40, E=800, F=0%	Rural raisin aggregator N= 200, E=2000, F=0%
Import	Grapes importer N=10, E=500, F=0%	Raisins importer N=5, E=50, F=0%		
Production	Grapes farmer N=67350; E=740850; F = 18% (for processing 50+%)			
Inputs	Inputs importers cum wholesaler N=100, E=2700, F= 0%	Fertilizer manufacturer N=1, E= 1500, F=10%	Inputs retailer N=750, E=750, F=0%	

6.2.1.1 End markets

Figure 6.1 clearly shows that grape exports mainly target Pakistan (only a small share goes to India through transit in Pakistan and directly via Kabul airport). The major reasons for such a limited export market are material. Grapes, being a perishable item, cannot reach distant markets unless there is proper packaging and a cold chain system at source - both of which Afghanistan lacks and/or does not have at all. Now, with a high output-input ratio (figure 4.11) for grape farming, production has steadily increased, but the export market has not expanded. In addition to the depreciation of the PKR against the US dollar, while Afs have remained more or less stable (and hence imports from Afghanistan to Pakistan have become costlier), other factors have contributed to the decreasing competitiveness of Afghan grapes on the Pakistan market, such as periodic Pakistan border closures, insecurity on the road and illegal road taxation. These

factors have either increased wastage or directly contributed to the increased price of Afghan grapes on the Pakistani market. Consequently, Iranian grapes were found to be the cheapest there (figure 4.3). In addition, as overall production has increased in Afghanistan, poor farmers have been forced to sell part of their grapes (if not all) and, consequently, an increased supply has helped to reduce the Afghan grapes price on the Pakistan market.

Box 6.1: The export of fresh grapes from Afghanistan to Pakistan is increasing but becoming increasingly less profitable

Farouqe, a fresh grapes exporter based in Kabul, exported 420 tons of grapes of different varieties to Pakistan (Peshawar market) in 2012. Although he exported more than in previous years, he made less profit. He referred to a number of reasons for this state of affairs. While the selling price had increased (say, for a certain variety, in 2007 the selling price had been 500 PKR/ser⁶¹ and it was 800 PKR/ser in 2012) this increase had not had a positive impact on his profits because of the constant depreciation of the Pakistani currency. Despite the fact that the selling price had increased by 60% in PKRs, this translated into only a 4% increase when converted into US dollars. On the other hand, his buying price has increased by 30% to 40% irrespective of whether this price was considered in Afs or in US dollars (Afs remained steady against the US dollar during this period). To make matter worse, the customs taxes in Pakistan and transportation costs also increased significantly during this period. Altogether, the profitability is constantly on the decline. Furthermore, Afghan grapes on the Pakistani market have to compete against imports from China, Iran and Tajikistan. Since these countries sell at a lower price and have increased their supply, Farouqe and other Afghan exporters cannot raise their selling price – even after the increase in marketing/transaction costs.

Key message: Afghan grapes are becoming increasingly less competitive in the Pakistani market.

The second largest buyer of Afghan grapes is India, though the export volume to India is negligible compared to that to Pakistan. Exports to India are hampered by the irregular and troublesome transit facilities in Pakistan, corruption and the bureaucratic hassles of exporting by air, despite the fact that Afghan grapes are sold at a more lucrative price in India. Box 6.2 gives an example of an Afghan exporter who exports grapes to New Delhi in India.

Box 6.2: India provides a higher value for Afghan grapes but export is constrained

Ahmad, a Kabul-based fruits exporter exports fruits such as pomegranates, grapes and apples, mostly to Pakistan. He does not export to countries other than Pakistan very often, as transport by air is very problematic in terms of documents processing, custom delays, security checks, etc. Last year he managed to export to India by air via Kabul international airport. He exported a total of 2.2 tons of grapes to New Delhi in India.

Total export volume in tons	2.2
Costs of goods sold/US \$	5694
Selling price US \$	6680
Profit US\$	986
Profit margin	14.7%

⁶¹ 1 ser = 7 kg

The major transaction costs are air transport and packaging. According to Ahmad, exporting grapes to Pakistan does not require expensive packaging materials and the land transportation is also cheaper. Ahmad adds that although India produces grapes, there is a high demand for Afghan grapes, particularly the Shongulkhani variety. The market is much bigger there - but due to procedural hassles, non-cooperation by the Kabul airport customs authority and bribes, few exporters export to India by air. Land transportation to India would be cheaper and easier but due to problems on the Pakistan border and poor transit facilities, exporters do not export grapes to India through Pakistan. Key message: India provides a much higher value for Afghan grapes, but exporting to India is problematic by air due to harassment at the airport customs.	Costs breakdown	US \$
	Buying value of one batch of 2.2 tons	1892
	Labor costs	351
	Packaging costs	1076
	Transportation	1470
	Wastage	61
	Customs clearance in Afghanistan	58
	Bribes in Kabul Airport	68
	Customs duty in India	718
	All costs /batch	5,694

The end market for raisins gives a different picture. Only about 10 per cent of the total raisins are exported to Pakistan, around 20 per cent are domestically consumed and the rest are exported to international markets other than Pakistan. The main reason for such a difference is that raisins do not need a cold chain facility like grapes. While the Russian Federation still holds the major export market share, the market has been recently expanding in the EU and North America. As seen in the previous chapter, even after losing further price competitiveness against Iranian raisins, Afghan raisins are increasingly finding their way to high-end markets due to their superior quality (figure 4.9).

Box 6.3: Afghan raisins reach high-end markets while they are becoming less competitive in the Russian market

Ali, a Kabul-based leading raisins exporter, exported around 700 tons of raisins to the Russian Federation, Central Asian countries, Europe and Canada in 2012. He obtained the ISO 9001 and ISO 22000 (supplementing HACCP certification specifically related to food safety issues), which enabled him to export to both European and Canadian markets, where there is a high demand for Afghan raisins because of their superior quality and taste. In addition, he has installed laser sorting machines to comply with the buyers' requirements. Sixty per cent of his exports are to the Russian Federation and Central Asian countries, while the rest (40 per cent) are to Europe and Canada.

On the other hand, Hussain has been in the raisins export business for long. Until 2012, he was doing good business in the Russian Federation. But since the economic sanctions, Iran has been increasingly entering the Russian market as exporters can offer a lower price because of the currency depreciation. In order to remain competitive, Hussain has to offer a lower price than before. While he was selling raisins at 1,500 USD per ton (FoB value) a couple of years ago, he sold them at 1,300 USD per ton last year. His export volume to Russia has also been reduced also. During the period 2007-2011, he exported around 2,000 tons of raisins to Russia every year. In 2012, he exported only 500 tons.

Key message: securing standards certificates and improved machinery open up doors to high-end buyers in the European market as well as in North America. In contrast, Afghan raisins are increasingly losing their competitiveness to Iran on the Russian market.

6.2.1.2. Channels and governance structure

The grapes/raisins value chain clearly delineates five channels that include both grapes and raisins, as shown in figure 6.1.

1. Domestic grapes market channel: market-based

This channel includes the local grapes production consumed in the domestic market. This channel consists of a market-based relationship, where there is little exchange of information or learning from the parties involved (interaction). Buyers and sellers are not necessarily in long-term business relationships and they trade with whomever is available at any given point of time.

2. Grapes export market channel: market-based and modular

This refers to the channel whereby grapes mostly reach the Pakistan market, and it consists of a governance structure that is both market-based and modular. In a market-based structure, exporters buy from the spot market through commission agents, rural traders (rural aggregators) or urban-based traders, and also directly from farmers - whomever they find as suitable suppliers to provide the product at a convenient price. However, a number of grape exporters sometimes pre-finance farmers directly or through commission agents or rural aggregators to secure grapes after the harvest. This is a kind of informal contracting (although there is no legal obligation for the sellers to sell their products to the buyer but they usually do, following a moral obligation). This mechanism partially makes the channel a modular type. There are not many of these farmers. They only operate in the districts of Kabul province, obviously because of their proximity to the capital's grapes wholesale market.

3. Imported grapes market channel: market-based

Grapes from Iran as well as other countries (through Pakistan) follow this channel throughout the year and target high-end urban consumers when local grapes are no longer available. This is again a market-based structure.

4. Raisins exports market channel: market-based and captive

Similar to grapes exports, this channel describes the raisins export channel. The power structure down the value chain becomes a little captive (significant switching costs due to credit-based transactions), whereby a number of suppliers act as fixed suppliers throughout the year. These suppliers, however, buy raisins from farmers through a market-based relationship.

5. Imported raisins market channel: market-based

Afghanistan imports raisins mostly from Iran during the Eid, but in small quantities. This channel is also market-based.

It may therefore be clearly seen that the grapes/raisins market mostly works as a market-based power structure that leaves little room for the large players to exploit the poor producers. It is also important to note that, in such a market-based governance structure, it is difficult to differentiate which channel facilitates small farmers and which do not. Furthermore, benefits transferred within the value chain (such as pre-financing by traders) do not necessarily only target large farmers - but whomever the traders know

personally and from whom they feel they can recover their money after the harvest. Therefore, if the sector grows and the market power structure remains the same in the near future (a likely scenario due to the abundance of grapes/raisins), farmers are likely to benefit irrespective of their size and profile. However, given the current competitiveness situation of Afghan grapes (discussed in the previous chapter and in the following section), farmers selling grapes are not as likely to benefit as much - unless appropriate action is taken - as those selling raisins. Hence, an obvious objective should be to move first- and second-category farmers to the third category by means of appropriate interventions.

6.2.1.3. Farm-level production status

Grape farmers can be classified into three major categories irrespective of their land size: farmers who have contract agreements with fresh grapes exporters; general grape farmers who sell on the spot market; and farmers who process their harvests fully or partly to convert into raisins and liquidate their raisins whenever they need cash.

Traditionally, grapes are grown on the ground in Afghanistan. However, a recent phenomenon is the adoption of the trellis system (above the ground) by advanced/more commercial farmers (box 6.4). Converting from a traditional vineyard to a trellis system nonetheless involves significant costs, which explains why many farmers have not yet adopted this system. Crop diseases seem to be very common and most farmers use crop protection materials. It was also observed that due to the increase in the price of fertilizers, most farmers have reduced their use of the same - thus compromising the yield.

Box 6.4: The trellis system improves grape yield and product quality, resulting in a higher farm income

Akmal established trellises for 500 grape vines of one Taifi variety, for which he spent 75,250 Afs (a total of 215 concrete columns cost 350 Afs each). As a result he doubled his yield (i.e. 1000 ser of grapes instead of 500 ser for the plot without a trellis). He sold each ser for 300 Afs, thus receiving 300,000 Afs instead of 150,000 (i.e. 150,000 more per year - while the total costs for introducing the trellis system were 75,250 Afs, and the concrete columns can last for more than 20 years). Another factor is that he obtained better quality grapes compared to those grown without a trellis, and the price was also higher. He said the price could be as low as 200 Afs/ser if the grapes were not grown on the trellis.

Key message: The trellis system can improve the yield and also produce better quality grapes, which ultimately fetch a higher unit price for farmers.

6.2.1.4. Cost breakdown along the value chain

The following cost breakdowns have been generated for Afghanistan and Pakistan - but not for Iran, as it was impossible to gather enough details to make a breakdown for this country. In chapter 4, figure 4.1 showed that Pakistani grapes lost further price competitiveness against Afghan grapes from 2007 to 2012. During the same period, however, Afghan grapes lost their price competitiveness against Iranian grapes. The eroded price competitiveness of Afghan fresh grapes can be observed under three major cost elements in the value chain (in the order of increase in absolute value): the increased cost of fertilizers;

the increased cost of farm labour; and the increased cost of packing materials (figure 6.3). The graph also shows how farmers' profits decreased in 2012 compared to those of 2007.

Figure 6.3: Cost elements along the Afghan VC for one ton of fresh grapes in 2012 and 2007

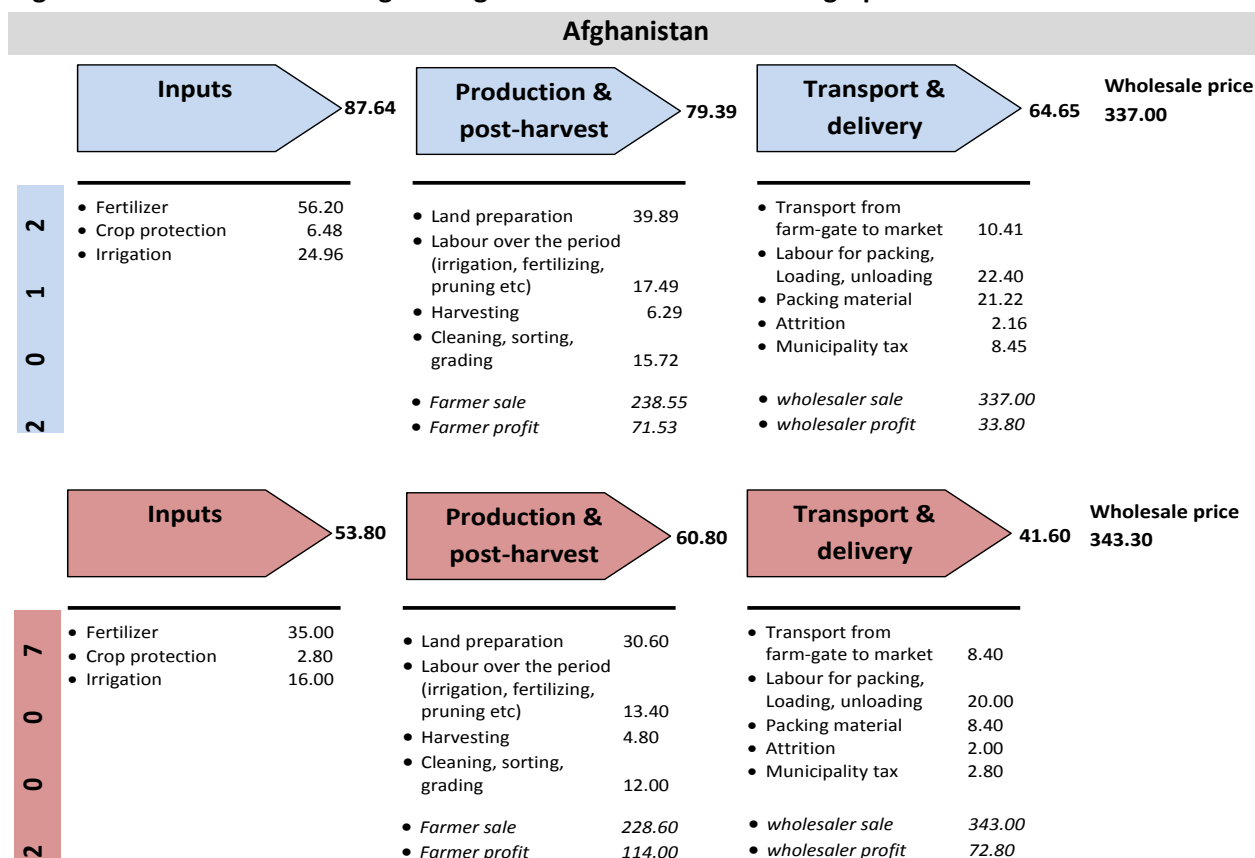


Table 6.2: Inputs costs as percentage of total production cost – Afghan fresh grapes

Year	Fertilizer %	Irrigation %	Labour %
2012	34	15	48
2007	31	14	53

As far as the production cost percentages are concerned, it may be observed from table 6.2 that they did not increase much in the 2007-12 period, while labour costs even slightly decreased. This may be attributed to the close range of the final wholesale prices in the two different years in the cost diagram. However, the non-increase of production cost elements affected the profitability of the value chain actors, including farmers.

Figure 6.4: Cost elements along the Pakistan VC for one ton of fresh grapes in 2012 and 2007

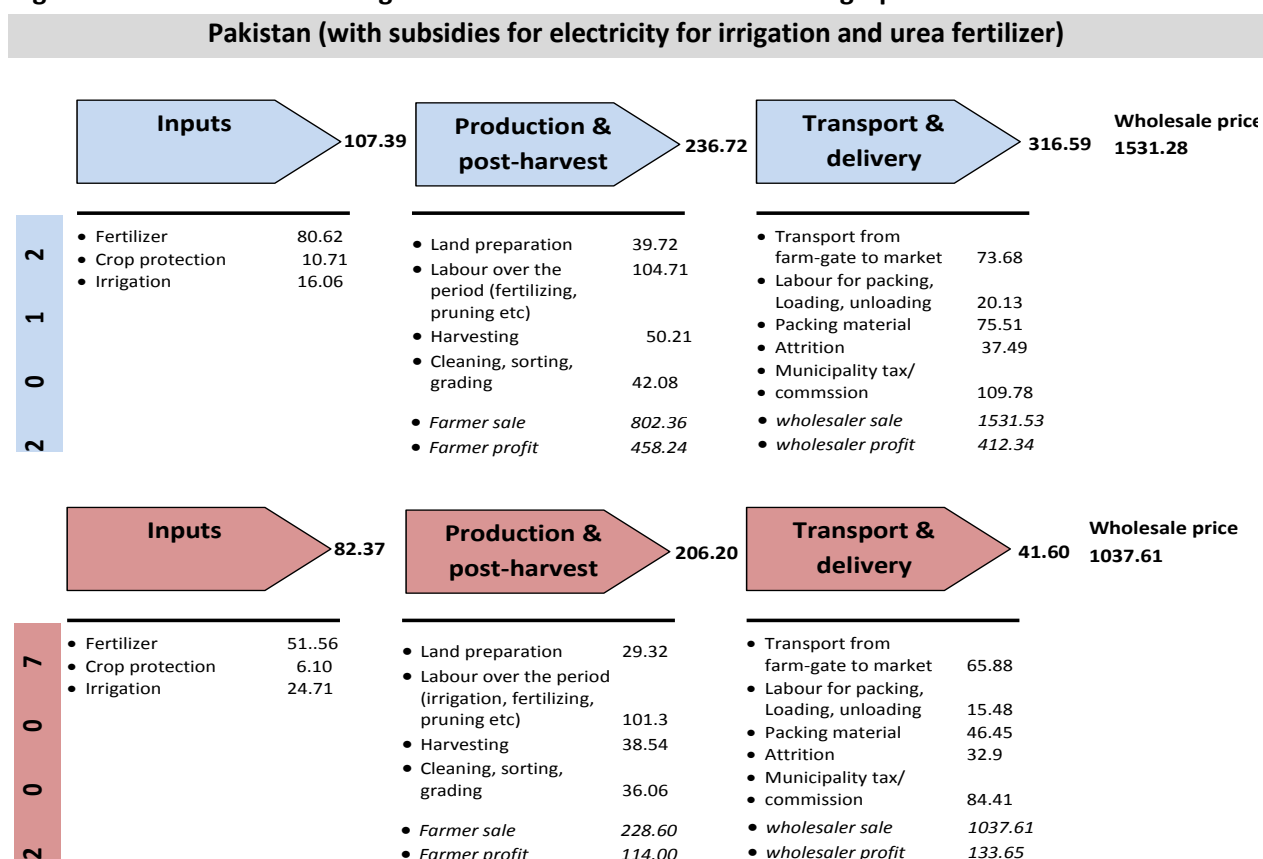
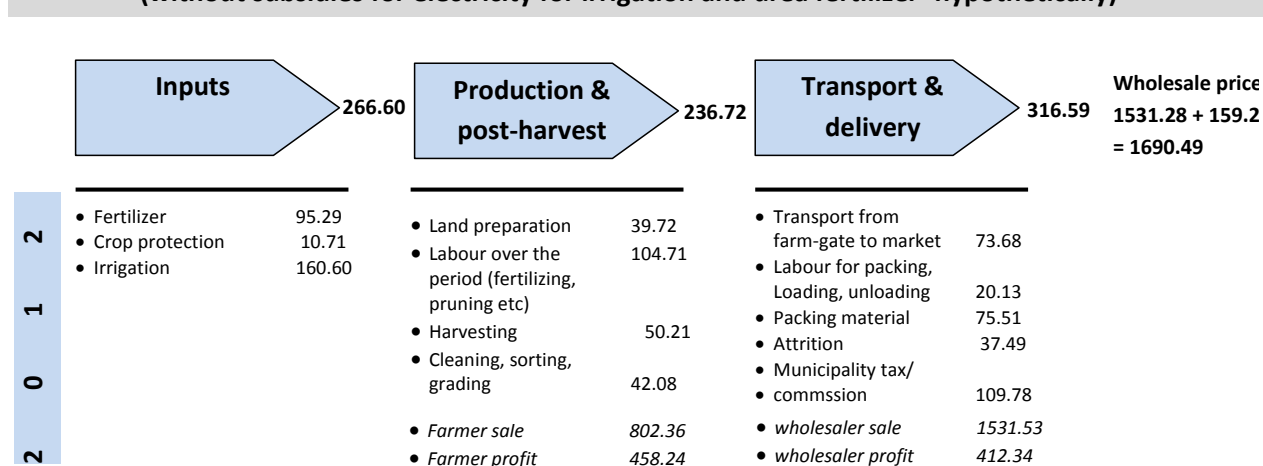


Table 6.3: Inputs cost as percentage of total production cost – Pakistani fresh grapes

Year	Fertilizer %	Irrigation %	Labour %
2012	23	5	69
2007	18	9	71

The implication of cost elements under total production cost is similar to that in Afghanistan.

Figure 6.5: Cost elements along the Pakistan VC for one ton of fresh grapes without a subsidy in 2012 (without subsidies for electricity for irrigation and urea fertilizer- hypothetically)*



* The cost increase due to a hypothetical withdrawal of subsidies is added to the final wholesale price, keeping the profit margins the same at farm level.

It is clear from the above three figures that the subsidies in Pakistan's grapes sector do not change the relative competitiveness scenario vis-à-vis Afghan fresh grapes. Even with the current subsidies, Pakistani fresh grape are far more expensive than those of Afghanistan. Removal of the subsidies would only widen the price gap.

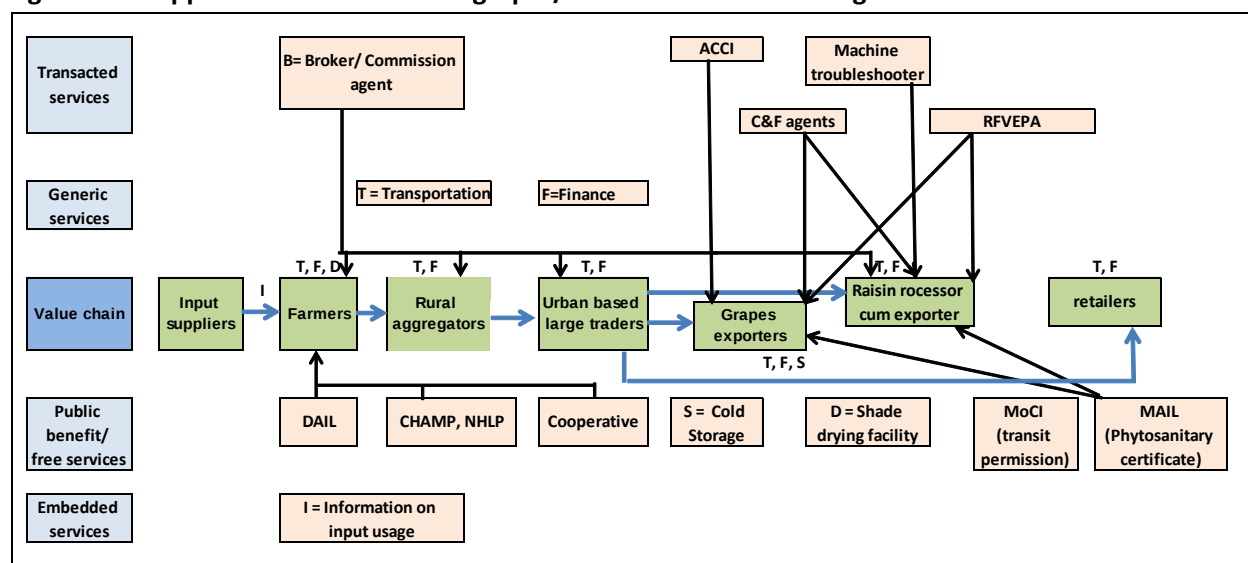
Figure 4.1 in Chapter 4 also showed that Afghan raisins further lost their competitiveness against Iranian raisins. Figure 6.6 sets out to reveal the cost elements that attributed to this eroded price competitiveness. It may be seen that the three cost elements that contributed most to the increased price were fertilizers, farm labour and irrigation.

Figure 6.6. Cost breakdown along the Afghan VC for one ton of raisins in 2012 and 2007

2012		Inputs	262.87	Production & post-harvest	471.60	Processing, transport & delivery	330.00	FoB price	1300.00
2012	2	• Fertilizer	168.57	• Land preparation	119.67	• Factory level cleaning, processing	90.00		
	1	• Crop protection	19.45	• Labour over the period (irrigation, fertilizing, pruning etc)	52.47	• Machine processing	33.00		
	0	• Irrigation	74.85	• Harvesting	18.86	• Packing material	71.00		
2007	2			• Cleaning, drying, Collection	47.16	• Attrition	124.00		
	0			• Farmer sale	828.84	• Transport from factory gate to border	30.00		
	7			• Farmer profit	327.76	• Custom clearance	12.00		
2007		Inputs	161.40	Production & post-harvest	360.60	Processing, transport & delivery	326.72	FoB price	1150.00
2007	2	• Fertilizer	105.00	• Land preparation	91.80	• Factory level cleaning, processing	82.00		
	0	• Crop protection	8.40	• Labour over the period (irrigation, fertilizing, pruning etc)	40.20	• Machine processing	29.00		
	7	• Irrigation	48.00	• Harvesting	14.40	• Packing material	73.00		
2007	0			• Cleaning, drying, Collection	36.0	• Attrition	107.12		
	0			• Farmer sale	660.00	• Transport from factory gate to border	25.60		
	7			• Farmer profit	316.20	• Custom clearance	10.00		
						• exporter sale	1150.00		
						• exporter profit	163.28		

6.2.1.5. Support services market

The overall support services market may be described by addressing four types of services, as shown in figure 6.7.

Figure 6.7. Support services market in grapes/raisins value chain in Afghanistan**Transacted services**

Broker/commission agents: They play a major role in the trading of grapes - as in the trading of any other agricultural commodities. They are present in the main Kabul fresh fruit market to facilitate the trade between buyers and sellers. These service providers charge the sellers 6 per cent of the total goods sold.

Chamber of Commerce and Industry: The Chamber of Commerce and Industry provides Certificates of Origin (CO) to the member exporters to export goods outside the country, with a charge of 0.1 per cent of the FoB value of the exportable goods. They also help the exporters participate in international exhibitions.

C&F agents: Clearing and Forwarding agents are based at border Customs points.

Raisins, Fruits and Vegetables Export Promotion Agency (RFVEPA): This agency primarily provides Quality Certificate to the exporters. The exporter submits buyers' quality specifications and exportable samples. The RFVEPA checks whether the samples conform to the ANSA (Afghanistan National Standards Authority) standards, and also to the quality standards required by the buyers. If they find the quality of the samples meet the standards, they provide a Quality Certificate to the exporter.

Raisins processor: There is only one processing mill based in Mazar, which processes raisins for exporters (others process and export by themselves). They charge 35 US dollars per ton for raisin processing up to packaging.

Generic services

Financial service providers: Although a range of financial service providers were found along the value chain, hardly any farmer uses banking services. They mostly receive loans from their friends and relatives when they need money, and these loans are of course interest-free. A small number of grape farmers receive loans from traders to whom they sell their grapes. Exporters exporting raisins to the European or

Canadian market use banking channels, while those exporting to Pakistan use informal money exchangers (*hawala*) to transfer money.

Transporters: The various actors use different types of transportation means - depending on the distances, road conditions and volume of the product. Trucks are the major goods transportation means between the provinces.

Public benefit/free services

Department of Agriculture, Irrigation and Livestock (DAIL). This Department under MAIL is primarily responsible for extension work. It also implements different projects in collaboration with various development organizations/NGOs. The district level DAIL provides technical advice concerning grapes to the farmers, although the majority of the farmers interviewed said that they did not receive such services from DAIL.

NGOs/development projects

National Horticulture and Livestock Programme (NHLP). Funded by the Afghanistan Reconstruction Trust Fund (ARTF), this is a follow-up to the HLP (Horticulture and Livestock Programme, funded by the World Bank). Along with other activities, this project is very active in providing grape farmers with training and financial assistance, and also setting up improved grape farming techniques - the trellis system, for example.

Roots of Peace/CHAMP: The Roots of Peace is currently implementing the CHAMP (Commercial Horticulture and Agriculture Marketing Programme) funded by USAID, which also works in the grapes subsector. At present, they are establishing raisin-drying facilities in different districts in Kabul province. These shade-dried facilities will significantly improve the quality of the raisins and reduce the post-harvest loss. Under this project, the Roots of Peace are also building cold stores for grapes in Kabul province.

UNOPS: In 2012, the United Nations Office for Project Services (UNOPS) established one cold store for grapes (very simple, similar to the potato cold stores in Bamyan) in the Feroz Naqshi district of Samangan province.

Cooperatives: Many NGOs and development projects have helped form a high number of cooperatives and groups with the support of DAIL. These cooperatives enable development initiatives to run their activities or distribute goods and services.

Embedded services: It was noted that input sellers provide information on the use of different types of inputs such as crop protection materials, fertilizers, etc., to the farmers as embedded services.

6.2.1.6 Cross-cutting issues

On the whole, women are more in charge of guarding vineyards. At the time of harvest, they help the men collect grapes. They also help in sorting, scaling, grading and packing the grapes into crates and cartons. Furthermore, women are more actively involved in the processing of grapes to raisins. However, all these activities are non-paid - yet in the processing factories, workers are paid (and at least 50 per cent are women).

Children assist their parents at the time of pruning in the vineyards. They also help in guarding the vineyard and during the harvest. They contribute towards collecting and packing grapes into cartons and crates. Children were found to be working in wooden crate-making factories in Mazar. This job is hazardous as there is no protective equipment, and the workers use hammers and nails when making these crates.

In addition to the hazards in the crate-making factories, workers handle raisins and chemicals with bare hands, which come into contact with toxic materials and fungal infestations.

6.2.1.7 Constraints and opportunities

When adopting the methodology of triangulation to survey the competitiveness situation in the subsector with relation to value chain dynamics, it is possible to identify a number of key constraints – some of which are interlinked.

Constraints

1. Low farm-gate price for grapes. With its favourable agro-climatic conditions, Afghanistan is able to grow a large volume of grapes. Given that its increasing local supply exceeds demand, the farm-gate price cannot offset the rising price of fertilizers. In addition, these price increases have forced many poor farmers with limited resources to cut back on their application of fertilizers, thereby compromising the yield. As a result, farm income through grapes has further decreased.

2. Limited export market for grapes. At present, Afghanistan mostly exports grapes to Pakistan. Only a limited amount of grapes are exported to India by transiting through Pakistan or via Kabul Airport, despite the fact that the export value is higher in India. This may be attributed to inefficiencies in the whole system (obtaining transit through Pakistan, corruption and harassment at Kabul airport, etc.) Afghanistan's lack of cold chain facilities and proper certifications also restrict it from exporting grapes to other countries apart from these two. To make matters worse, Afghan grapes are becoming increasingly more expensive on the Pakistani market and they are therefore less competitive against the grapes of other countries.

3. Farmers' poor financial management. As observed from the Afghan farm household dynamics described earlier in the text, most farmers belong to the "strugglers" and "indifferent" categories - and grape farmers are no different. Poor financial management is one key reason for such a situation.

Although raisins bring in a good income, many farmers cannot afford to store grapes to process into raisins due to their lack of financial management.

4. Poor access to high-end markets for raisins. While a few raisins exporters have penetrated high-end markets fetching a higher unit price, others are still lagging behind due to their poor knowledge and access to international standards. These exporters still cater to the low-end market. While the high-end market values Afghan raisins due to their superior taste and quality, low-end markets (particularly the Russian Federation) incline towards cheaper imports, and in this area Afghan raisins are increasingly facing competition against other countries' raisins - particularly Iranian ones.

Opportunities. There are nevertheless opportunities as well as constraints. These may be observed when considering the overall competitiveness status of Afghan grapes/raisins.

1. More raisins, more jobs. As far as overall competitiveness⁶² is concerned, Afghan raisins are competitive in the current market situation, while grapes are not. As raisins are a value-added form of grapes, increased raisins production can generate more jobs - not only in the commercial processing plants (exporters) but also at the farm household level. This also implies that a greater number of women will be engaged in the value chain, as they are more involved than men in both the primary processing at household level and secondary processing at factory level - although the former is unpaid.

2. High-end raisins export market is not a fantasy any more. By reaching the high-end export market, a few exporters have paved the way for others to follow. These high-end expanding markets will not only require more raisins but also provide a higher unit price, the effects of which will trickle down to other value chain actors upstream.

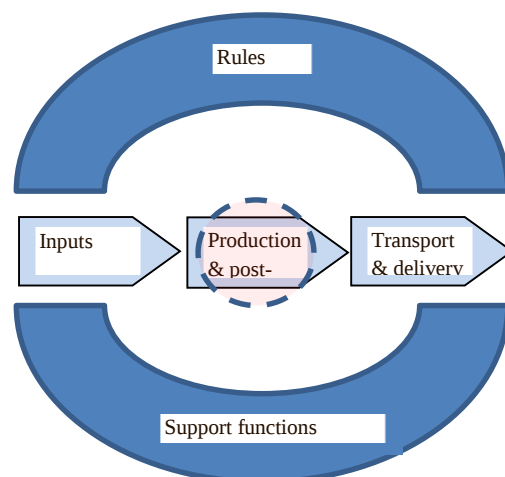
3. Higher grapes yield through the trellis system. As proven, the trellis system can significantly increase both the yield and quality of grapes. With an increasing yield - even given the decreasing real price of grapes - farmers can earn more because of the greater volume they produce and the high quality of their produce. Resource-poor farmers can thus save part of their grapes to convert into raisins. Furthermore, an increase in the export of raisins will require a more intense production of grapes, and the trellis system can efficiently help towards this end. However, this is contingent upon farmers attaining financial management know-how to be able to install and maintain the trellis system - thereby incurring additional costs.

6.2.1.8 Proposed Interventions

⁶² Considering not only price but also quality, standards, delivery etc.

1. Reduce the unit production cost by adopting the trellis system through private sector channels, thereby regaining price competitiveness.

There are some early signs of good results from donor-supported programmes, which have helped a number of farmers establish a trellis system; farmers have received higher yields and income. However, the scalability of such efforts is an issue. The private sector channel, with its commercial incentives, could help to expand this system much quicker among the grape farmers. Turkey is the region's largest player in grapes exports and it has promoted this trellis system successfully, mostly through private processors. The same model could be adopted in Afghanistan.



2. Educate farmers to better manage their farms. The farmers' poor financial management is a key bottleneck that prevents them from better managing their farms so as to attain a higher income. The farm households' financial situation reflects their poor handling of income and expenditure. Their borrowing patterns and poor savings culture is keeping them in a poverty trap, rather than providing them with prospects of upward mobility. A trellis system requires investment, which pays for itself after the first year's harvest. The following calculation is based on a household with two jeribs of land.

Table 6.4: Cost of trellis system

Cost frequency	Feature/cost head	Cost
One outlay at the beginning	Establishing trellis system (cost of materials - poles and wiring)	75,250 Afs
	Labour costs to establish trellis system	8,400 Afs
Total		83,650 Afs
Cost per year (Life span 10 years with negligible maintenance costs ⁶³)		8,365 Afs

All other costs are the same for households cultivating grapes, irrespective of whether or not they use the trellis system. The yield difference and total harvest value are as follows:

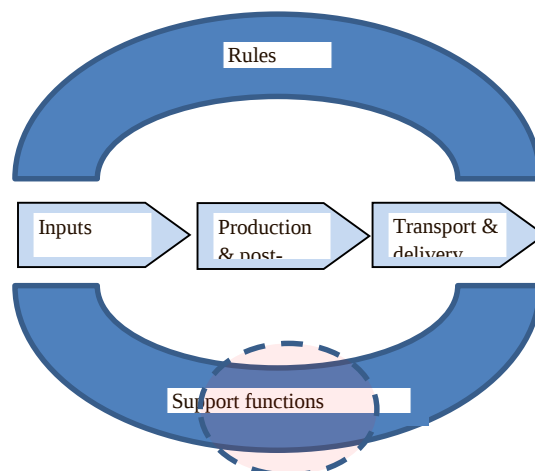
Table 6.5: Value of introducing trellis system

	Non-trellis	Trellis
Yield	3500 kg	7000 kg
Unit price	28 Afs/kg	42 Afs/kg
Total sales value	98,000 Afs	294,000 Afs

⁶³ Though the farmers' view is that they can even last for 20 years.

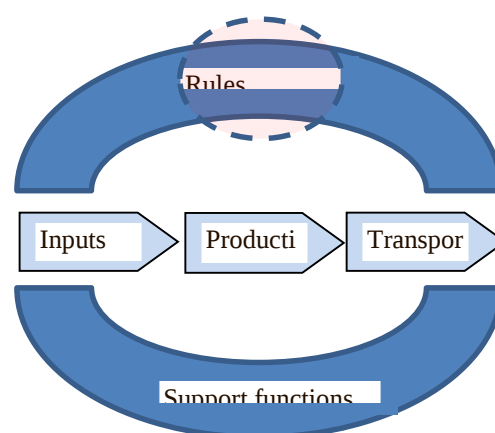
Profit is therefore increased two-fold: first due to the higher yield and second due to the higher unit price. The calculations shown above clearly show that the costs of establishing a trellis system can be recovered easily from the first year's harvest. A conservative estimate would be that if a farm introduces a trellis system, it would be able to supply at least 50 per cent more grapes than it does at present.

Even if farmers are aware of the trellis system, they are unable, due to their poor financial management, to afford to invest in the initial set-up cost. On the one hand, farmers cannot undertake such a cost-benefit analysis and, on the other hand, they cannot save money for future investment or apply an appropriate amount of farm inputs for a better yield because of their poor management of income and expenses. Hence, educating farmers in financial management is a key requirement.



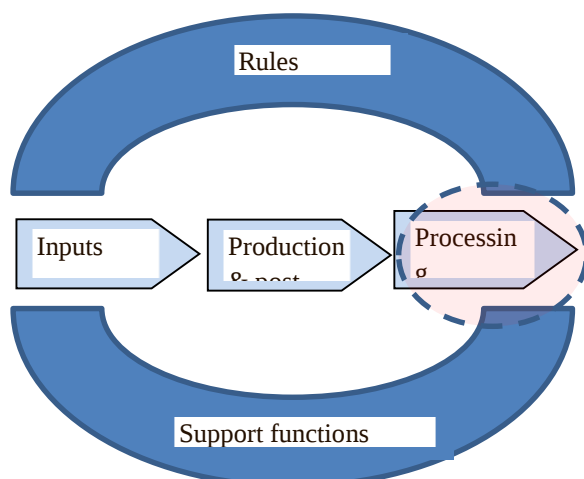
3. Improve access to alternative markets for fresh grapes in current infrastructure facilities

Given the current infrastructure facilities (lack of cold chain, cold stores, solid packaging for transporting long distances, etc.), Afghan fresh grapes are mainly destined for the Pakistani market, where they are losing price competitiveness against Iranian grapes. Other current markets for Afghan grapes are India and some Middle-Eastern countries (UAE, Saudi Arabia, Iraq) via Kabul airport. Although these markets offer a higher price, offsetting the higher air transport costs, the bureaucracy and malpractices at the Kabul airport customs office are increasingly discouraging such exports. Since transit facilities through Pakistan is problematic, exports by air to such high end-markets via Kabul airport can assist the fresh grapes export industry. For this, the bureaucratic hassles in the airport customs office need to be addressed; corruption and malpractices at customs clearance need to be tackled to encourage fresh grape exports to such high-end markets.



4. Assist raisin exporters to reach high-end markets.

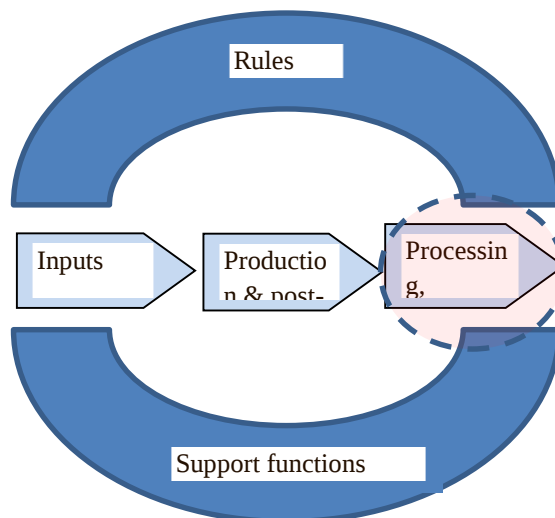
The export of raisins to high-end markets such as Europe and North America has opened up new avenues of growth. Compliance with international standards and certifications is required to reach these markets – and that is what most of the exporters in Afghanistan lack. They therefore cater to low-end markets (such as the Russian Federation, which again is becoming less interesting because of Iran's low prices on the market). Only a handful of exporters have



achieved such certifications and have entered the high-end markets. These second-tier exporters should thus be helped to adhere to such international standards and certifications, so that they might enter these markets. By enabling such exporters to export to high-end markets, the sector could create around 3.1 million new working days, in which 50 per cent would involve the participation of women.

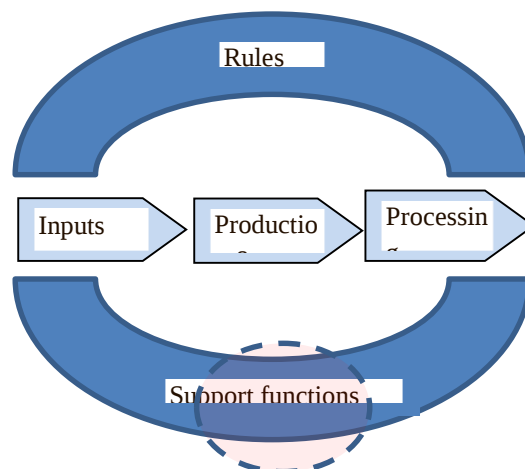
5. Assist current high-end raisins exporters to penetrate the markets further.

Around five exporters in Afghanistan are now successfully exporting raisins to the high-end markets, as they comply with international standards and certifications. Helping them penetrate these markets further could potentially increase the export volume and thereby generate further jobs upstream of the value chain. A 50 per cent increase in these exporters' volume of trade could generate 0.8 million new working days, again with the possibility of engaging 50 per cent of women.



6. Assist certification agencies in gaining access to the Afghan market.

Currently, there are no international certification agencies or their agents in Afghanistan to address the compliance issues regarding foodstuffs. Only one in the Hairatan port in Mazar deals with fuel - and nothing else. The raisins exporters who have received certifications to export to high-end markets had to go through agents based in other countries and not in Afghanistan. While Iran and Pakistan have quite a few of these certification agencies or their agents, Afghanistan does not have any. To promote exports to high-end markets, it is vital that these certification agencies should operate in Afghanistan and that interested exporters have easy access to their services. Efforts should therefore be made to invite such certification agencies to operate in Afghanistan – and to assist them in doing so - thereby developing a commercially viable market in the country.



6.2.1.9 Job implications⁶⁴

The grapes/raisins value chain in Afghanistan is estimated to involve around 67,500 farm households (out of which 21,920 could potentially introduce the trellis system in the short term), along with other value chain actors (breakdown shown in the “main report”). Most of the actors engaged in the value chain are not employed full-time in the grape/raisin value chain alone. Estimates show that around 20 million working days are currently generated by the value chain, which accounts for approximately 80,000 full-time jobs (considering 250 working days per person in a year). By capitalizing on the sector’s current competitive situation, addressing the constraints and tapping the opportunities, the subsector could create new jobs and improve (extend) the current job status. And there are two major ways to bring about this potential: by expanding the trellis system and enabling more raisins processors to attain the high-end market.

Table 6.6: Job creation potential through the expansion of the trellis system

<i>Elements of jobs creation potential</i>	<i>Estimate (new working days)</i>
If an additional 21,920 FHH established the trellis system in the short term, there would be 21 new working days for each farm	460,320

⁶⁴ Note that the following calculation was done on the basis of the initial assumption informed by the original field interviews where the total number of farm households producing grapes was estimated to be around 67,500. While the latest estimate on the basis of ALCS 2013-14 data is 173,164 farm households, which is 2.56 times higher than the original estimate used by the team, the following calculation is kept unchanged as a conservative estimate.

With increased production achieved by introducing the trellis system, there would be additional labour requirements for harvesting and post-harvesting activities	443,660 (50% women)
With an increased supply, there would be additional labour requirement along the value chain	205,700

Table 6.7: Job creation potential through further penetration into the high-end market by the successful raisins exporters (there are five such exporters)

<i>Elements of jobs creation potential</i>	<i>Estimate (new working days)</i>
New employment as a result of around 50% increase in processing at processors' level	26,880 (50% paid women)
New jobs at urban raisins wholesaler level in case of 50% increase in supply	5,760
New jobs at urban raisins wholesaler level in case of 50% increase in supply	14,400
New job at FHH level for additional supply ⁶⁵	722,568 (50% unpaid women)

Table 6.8: Job creation potential through enabling current low-end market raisins exporters to penetrate high-end markets (there are 30 such exporters)

<i>Elements of jobs creation potential</i>	<i>Estimate (new working days)</i>
New employment by processing around 220% more at processors' level	(29,400) ⁶⁶
New jobs at urban raisins wholesaler level in case of 50% increase in supply	52,800
New jobs at urban raisins wholesaler level in case of 50% increase in supply	132,000
New jobs at FHH level for additional supply	2,903,249 (50% unpaid women)

Hence, around **5 million new working days** could be created in the short-term by penetrating the high-end raisins markets further and by adopting the trellis system – approximately 20,000 full-time jobs. Therefore, by adopting the appropriate strategies, the current level of around 80,000 full-time equivalent jobs could be raised to around 100,000 full-time equivalent jobs.

6.2.2 Pakistan

⁶⁵ This is by calculated by increasing exports to high-end markets as a result of five more processors further penetrating the market, in addition to installing the trellis system in 21,920 FHH.

⁶⁶ If the enterprises were certified and equipped with machinery, the actual working days would be initially cut, but with growth they would start increasing again.

As the overall situation of competitiveness in the three countries under review shows, Pakistan's grapes production is not competitive. Balochistan province alone provides more than 98 per cent of the annual grapes production in the country. As Balochistan is finding it difficult to expand its orchards due to a scarcity of water, the increasing market demand has been met through imports. The total market size is estimated at 108,000 tons per year, of which slightly more than half is produced in Pakistan.

In the last few years, limited exports of grapes have been made directly from farms in Balochistan. The export of Pakistani grapes and re-export of Afghan grapes have mostly been directed at the Gulf States, Singapore, Bangladesh and Sri Lanka. The re-export of grapes imported from Afghanistan has almost stopped during the past two to three years due to quality issues, the lack of cold chain infrastructure and the use of inappropriate packaging materials. Furthermore, the profitability of grapes imports from Afghanistan has declined due to Pakistan's currency depreciation, while the Afghan currency has remained constant against the US dollar. Consequently, there has been an increase in grapes imports from Iran. The diminishing export surplus of fresh grapes in Pakistan, accompanied by the low-priced fresh grapes from China and Iran to the importing countries, have made exports increasingly less profitable for exporters in Pakistan.

Raisins production is not a priority as the country has a deficit of fresh grapes. Some grapes, which are not fit to be sold as fresh produce, are processed into *abe-josh/monnaqa* (seeded or seedless large raisins) and raisins. Pakistan does not have enough locally-produced raisins to export and therefore depends on its supply from Afghanistan. Raisins imported from Iran are locally consumed and rarely exported owing to their low sugar content and changing colour. In recent years, exporters have been sourcing products from Afghanistan and exporting them directly, declaring them as goods in transit in Pakistan. This has occurred because of the lower customs duties on produce originating from Afghanistan. There are obvious advantages in the case of the Indian market, which has a bilateral free-trade agreement with Afghanistan.

The channels within the value chain mainly lead to the domestic consumption market, where a market-based power structure prevails. However, there are a number of modular and relational power structures among the large market players (importers/exporters).

In Pakistan, grapes are grown in open fields - mostly without supports. Consequently, they have a relatively low yield and are of poor quality. There is no cold storage and cold chain infrastructure to keep the produce fresh from the farm to local markets, both in the case of local production and imports from Afghanistan.

In the grapes/raisins value chain, women play an active role but are mostly unpaid. They prepare food for the hired workers and family involved in farming the grapes and assist in weeding and pruning the vineyard. Their role is more pronounced in the processing of grapes into raisins, where they are specifically involved in cleaning, sorting, drying and packaging/storing the goods. Fewer than 10 per cent of women were reported as being paid for grading/sorting and packaging of raisins. A number of OSH (Occupational

Safety and Health) issues were observed: farmers and labourers working in the fields do not take precautions while spraying and applying fertilizer – they have no gloves, masks and protective clothing; the reuse of empty bottles of pesticide and fertilizer bags for domestic use is common, which may result in different health issues; the handling of produce and chemicals with bare hands can cause contact with toxic materials and fungal infestations.

Given that grapes and raisins are non-competitive against imports, the industry does not flourish in Pakistan, although there is domestic demand. Furthermore, favourable agro-climatic conditions are a prerequisite for grapes production, and these only exist in limited locations in the country.

6.2.3 Islamic Republic of Iran

Iran is a significant player in the global export market of raisins. It does not export as many fresh grapes as it does raisins - as a value-added product. It exports to member States of the Organisation of Economic Co-operation and Development (OECD), neighbouring countries in Asia, and Middle Eastern countries. On account of economic sanctions, many of its exports now reach OECD countries through a third country, and transaction costs have increased. But Iranian grapes and raisins are still competitive in the international market, as seen in the competitiveness analysis. Since Iran grows a large volume of grapes and thereby raisins, its domestic market share is only very limited compared to its export market.

As far as the grapes and raisins value chains in Iran are concerned, three major channels can be observed: the local consumption market for fresh grapes; the fresh grapes export channel; and the processed grapes channel. The wheat subsector grew impressively during the past decade.

The market-based power structure mostly prevails in all three channels. In the case of fresh grapes exports, however, the modular power structure exists to some extent. As regards raisin and vinegar processing, an element of captive power structure was observed in parallel to market-based relationships. In this case, processors buy on credit from the farmers and continue revolving the credit throughout the year by periodic procurement.

Unlike in the other two countries, grapes are farmed in both rain-fed and irrigated lands in Iran – although mostly in the latter. In farming households children help the adult family members when they have free time after school, particularly during the harvest season. Women mostly work at harvesting time, but some also assist in tasks such as irrigation, sulphuring fruit, drying the grapes to make raisins, making molasses and weeding. The most commonly hired women farm labourers are Kurdish – the others being unpaid family members. With traders, there are a few women active in sales during both input distribution and the final goods distribution. In the processing plants, women are involved either in office work or in packaging, depending upon their skills and level of education.

Despite the economic sanctions, Iran still remains competitive in the global grapes and raisins market, thanks to the constant depreciation of its currency. A potential threat to its current competitiveness is the increasing price of agricultural inputs, following the gradual withdrawal of government subsidies.

6.3 Wheat value chain

Section summary: *Wheat is the major staple food in Afghanistan, but the country's domestic production has never been adequate to meet demand. Afghan wheat and wheat flour have continued eroding their price competitiveness against Iran and Pakistan, and there has been a marked increase in the import of wheat from Pakistan. The market-based structure dominates in all market channels of the wheat value chain. In addition to the limited local supply of wheat and farmers' inadequate financial management, a key constraint is the poor quality of seeds, which results in a low yield. Policy-makers in Afghanistan might envisage a fertilizer subsidy, but this would be unrealistic - at least in the short term. On the other hand, Pakistan's subsidies on fertilizers and electricity are not the determinant of its price competitiveness. Afghan policy-makers might consider providing assistance to private sector channels to enable them to develop a quality wheat seed import market. Indeed, Pakistan has considerable potential to increase its exports of high-quality wheat seeds to Afghanistan, which would be a win-win scenario for the two countries. In Iran, following the introduction of the Targeted Subsidy Reform Act of 2010, subsidies have started to be reduced, with the result that the price of wheat has become linked to its quality. Despite the Government's intervention and the strengthening of the private sector, Iran is still not self-sufficient in wheat.*

The current competitiveness situation with respect to wheat and wheat flour in Afghanistan, Pakistan and Iran was described in chapter 4. This section explains the value chain dynamics that have been in play alongside the exchange rate/price issues, resulting in the current status. The situation in Afghanistan is described in more detail, and only a synopsis is given for Pakistan and Iran (details are in the main report). Value chain maps have been used to explain the dynamics.

6.3.1 Afghanistan

Figure 6.8 shows the Afghanistan wheat/flour value chain map. The key issues emerging from this map are discussed below.

Figure 6.8. Wheat value chain map of Afghanistan

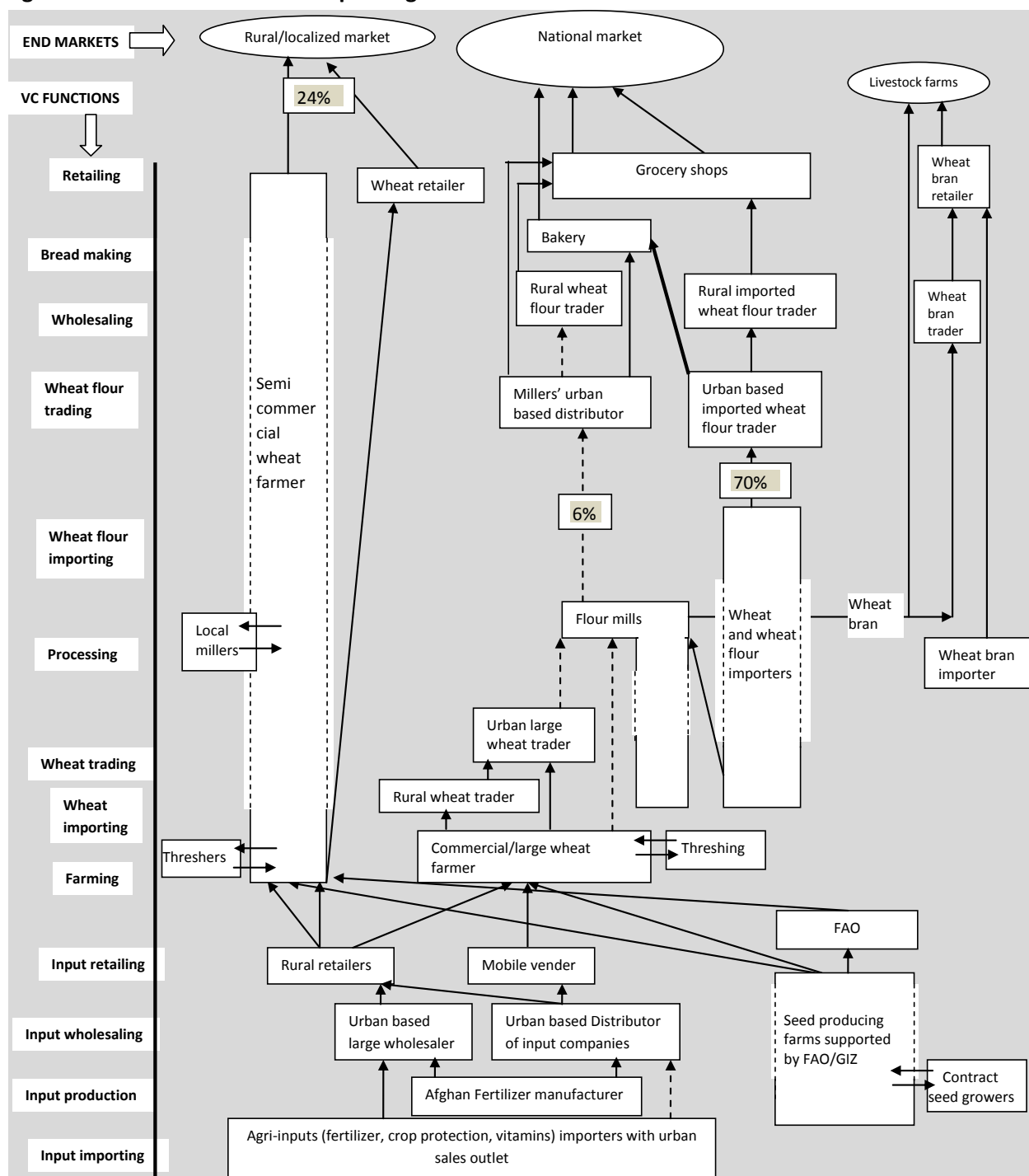


Figure 6.9 Enterprises and employment in the subsector (N= enterprise, E=Employment, F=Female)

Retail	wheat retailer N=300, E=300, F=0%	Wheat flour retailer N=5,000; E=5,000, F=0%	Bakery N=3,600; E=7,200; F = 0%
Wholesale	Rural wheat aggregator N=360, E=360, F=0%	Urban based wheat flour wholesaler N=500, E=10,000, F=0%	
Processing	Flour mills N=35, E=3500, F=10%	Zirandas N=30,000; E=30,000, F = 0%	
Import	Wheat importer N=20, E=680, F=0%	Wheat flour importer N=450, E=9,900; F=0%	Wheat bran importer N=8, E=40; F=0%
Production	Wheat farmer N=480,011; E=2,400,055; F = 5%	Threshers N=3,600; E=3,600,; F = 5%	
Inputs	Inputs importers cum wholesaler N=100, E=2700, F= 0%	Fertilizer manufacturer N=1, E= 1500, F=10%	Seed processor N=100, E=2600, F=0%
			Inputs retailer N=750, E=750, F=0%

6.3.1.1. End markets

The end market for the wheat value chain in Afghanistan is entirely the domestic consumption market. In Afghanistan, wheat is a staple food, accounting for over half of the population's caloric intake on average.⁶⁷ Though the local production increased significantly during the last decade, imports from neighbouring countries (mostly from Pakistan and Kazakhstan) played a key role in stabilizing wheat and flour prices in Afghanistan. It is noted that most wheat produced in Afghanistan never arrives in the markets. It is consumed by farm households or used as barter payments in rural areas. Only around 10 per cent of the production reaches the national market.⁶⁸ Poor farmers tend to stock their harvests to ensure food security.

⁶⁷ P. Chabot and P.A. Dorosh: "Wheat markets, food aid and food security in Afghanistan," in *Food Policy*, No. 3 (2007) pp. 334–353.

⁶⁸ R.B. Schulte: *Northern wheat trader survey and Afghan food security: A Special Report by the Famine Early Warning Systems Network (FEWS NET)*, United States Agency for International Development (August 2007).

6.3.1.2. Channels and governance structure

The wheat value chain map and corresponding channels shown in Figure 5.9 only describe those traded in the market. The wheat value chain can be explained by means of four distinct channels that include wheat, wheat flour and its byproducts.

1. Rural or localized market channel: market-based

This channel of the wheat value chain is confined within a locality where semi-commercial farmers sell wheat directly to consumers or to retailers in the local market, either in the form of grain or milled at local grinding mills. It is estimated that approximately 24 per cent of the total flour traded in the Afghan market flows through this channel.

2. Local wheat flour market channel: relational type power

This is a long channel in which many different types of value-chain actors participate. Its major difference from channel 1 is that it includes commercial wheat flour mills. In terms of throughput of the commercial flour mills, it accounts for only 6 per cent of the flour market.

3. Imported wheat flour market channel: market-based

This channel deals with imported flour but it merges with channel 2 downstream in the value chain. This channel is the biggest, accounting for 70 per cent of the total wheat flour market in Afghanistan.

4. Wheat bran market channel: relational and market-based

This is a byproduct channel of wheat. Wheat bran is a major food item for livestock animals and there is a good market for it in Afghanistan. This channel has two sub-channels; the first deals with local wheat bran and the second with imported bran. However, both these sub-channels merge together downstream in the value chain.

It may be understood why the market-based power structure dominates in all the channels – there is a lower local supply than demand. This situation is exacerbated by the fact that only around 10 per cent of the domestic production is traded on the market. The farmers who trade wheat (shown in the value chain map in figure 5.9) are better off economically and can sell their surplus - or if required, they can afford to buy from the market. The poor and the majority (90 per cent who do not sell) of the farmers are actually not part of the value chain, as they do not sell.

6.3.1.3. Farm level production status

Approximately 45 per cent of Afghanistan's wheat acreage in a normal year is irrigated, accounting for about 70 per cent of production. The remaining 55 per cent of wheat acreage relies on timely rainfall and typically provides the remaining 30 per cent of home production.⁶⁹ The country's domestic production of

⁶⁹ K.R. Shama, and K.H. Habibi: *Wheat Secure Afghanistan: Assessing Priorities*, International Maize and Wheat Improvement Centre, Kabul, Afghanistan.

wheat has never been sufficient for meeting demand; nevertheless it is prone to great weather-induced fluctuations. In 2009, the most bountiful rainfall in 32 years brought harvests that made Afghanistan nearly self-sufficient in cereals. There was a similar production in 2012. However, even those best production years could not help Afghanistan become self-sufficient. To make matters worse, Afghan wheat production has lost its price competitiveness further against Pakistan and Iran, as shown in figures 4.13 and 4.14.

Wheat is the major staple food in Afghanistan and almost all farmers grow wheat on their cultivable lands. While subsistence farming is very common, there is a limited amount of semi-commercial and commercial wheat farmers. Poor subsistence farmers have their produce milled in local small mills for their own consumption. These small-scale water-, diesel- or electric-run mills, known as “asiabs” or “zirandas”, provide the vast majority of domestically produced flour in Afghanistan.⁷⁰ These mills account for 90 per cent of the country’s flour production.⁷¹

The use of retained or low quality seeds is commonplace. It was found that around 43 per cent of farmers buy wheat seeds from other farmers and 31 per cent use their own seeds from the previous year’s harvest. Others buy seeds from the market, where they are not necessarily good quality seeds and often only simple consumable grains.

6.3.1.4. Wheat seeds in Afghanistan

While the country requires 300,000 tons of wheat seeds each year, the formal sector, including the public sector - The Agricultural Research Institute of Afghanistan (ARIA) and Improved Seed Enterprises (ISEs), and the private sector seed enterprises have the capacity to produce up to 30,000 tons of quality seed per year.⁷² Development channels have been promoting the establishment of private seed processing companies, but this seems to come up against two obstacles: the distribution of about 90 per cent of the seeds produced by these seed processing companies are bought back by the development channels; and the corruption and malpractices in distribution and procurement result in poor quality seeds. The quality of both the foundation and the certified seeds is compromised in this process. Figure 5.11 gives an idea of the wheat seeds distribution through development channels in Afghanistan.

As this figure shows, the donor-supported seed enterprises receive foundation seeds either from ARIA or through different development projects. They then distribute them to their contract growers and receive back certified seeds through multiplication. In the current situation, the development projects buy 90 per cent of these seeds produced by the seed enterprises - and only the remaining 10 per cent are sold directly

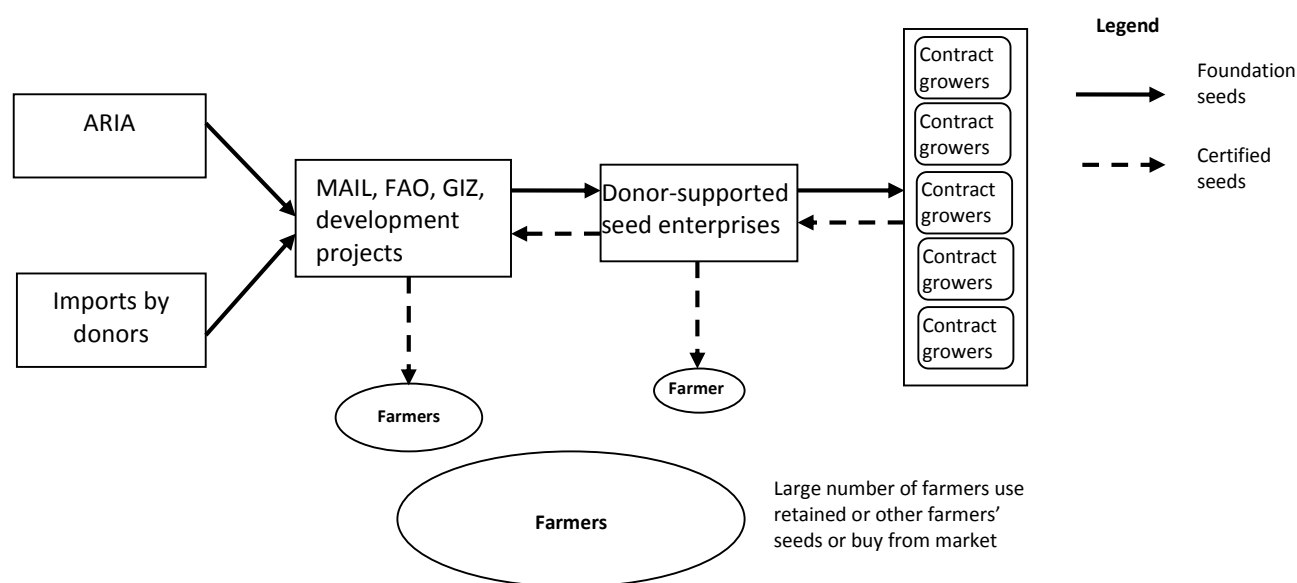
⁷⁰ S. Persuad: *Afghanistan’s wheat flour market: Policies and prospects* (USDA, Economic Research Service, October 2013), WHS-131-01.

⁷¹ USDA: *2012 Grain and Feed Annual*, Global Agricultural Information Network (GAIN), Afghanistan, March 2012.

⁷² S. Kugbei (FAO), M. Panjsheri (MAIL), and Z. Bishaw (ICARDA): *Focus on seed programs: The Afghanistan seed industry*, July 2011.

by the enterprises to the farmers. This makes the enterprises dependent on the development projects and the squeeze on donor funding is likely to affect them and raise the question of their sustainability. Furthermore, MAIL and the development projects buy wheat seeds from such enterprises through tenders, leaving the door open for possible malpractice. Incidents suggest that seed enterprises compromise with seed quality, as they have to resort to bribes to win the contracts. Not only do the development projects buy back certified seeds produced by the seed enterprises (through contract growers), but the seed enterprises also receive poor quality foundation seeds (outdated, disease-prone) from upstream - which results in poor quality certified seeds.

Figure 6.10. Wheat seeds distribution through the development channels



Box 6.5. Development channel promoting high quality wheat seed production and distribution is faulty

Since starting his seed-processing factory in Mazar, Ehsan has not had any problems. He receives the foundation seeds from the DAIL office, distributes them to his contract seed growers and buys back the certified seeds. So far, DAIL, FAO or other development organizations have bought back 90 per cent of his production, while only 10 per cent is sold directly to farmers. The farmers who buy seeds from him buy directly from the factory.

Akmal, a farmer, bought wheat seeds from this factory last year. Wheat seeds available in the market are sold at only 18.57 Afs/kg, but he spent 35.7 Afs/kg to buy improved and good quality seeds. He is happy to spend more money as he found these improved seeds increase the yield significantly; with ordinary seeds he used to have a yield of 560 kg/jerib - with the seeds from the factory his yield is as high as 840 kg/jerib.

A different scenario emerges with farmers who use improved wheat seeds distributed by the development channels - DAIL/FAO or NGOs. Jawad is a farmer in eastern Nangarhar province. In 2012, he received improved seeds from a DAIL contracting company. He claims that the contracting companies used very old varieties of wheat seeds and that the seeds were not improved. The seeds bag apparently had a FAO logo on it, and the seeds in the bag contained even more foreign materials than those sold in the market. According to Jawad, the varieties of foundation seeds included Gul 96 or Inqilab 91, which were used before the year 2000. However, much newer versions of wheat seeds are available in Pakistan and people prefer to bring them back from this country. He

added that this year he bought some seeds from a friend who had brought them from Pakistan, and they seem much better.

Jawad also noted that last year, the wheat fields of all those who cultivated the so-called improved seeds were affected by a plant disease called “rust”. He attributed this to the fact that the seeds provided by the company were very old varieties (such as Gul 96) and that they had lost their resistance to the disease. Since the development channels procure wheat seeds through tenders, there is always the possibility of malpractices and bribes involved in winning the contract, and thus the suppliers do not bother about the quality of the seeds.

Key message: Improved wheat seeds can improve the yield significantly and farmers are willing to pay a higher price. The processing companies have little incentive to market/promote their products themselves, if 90 per cent is bought by the development channels. However, corruption prevailing in the development channels’ procurement system encourages the suppliers to compromise with the quality of the seeds.

6.3.1.5 Wheat flour production status

The country’s five public mills and eight commercial mills⁷³ capture only a small fraction of the flour production market. During the Afghan civil war, the public mills that were built by the Soviet Union in the 1980s were partially or completely destroyed. The remaining five Soviet-constructed mills in Mazar, Kandahar, Herat and Pulikhumri are mostly used for grain storage, while the public mill in Kabul provides flour for the Afghan National Army⁷⁴. Two more commercial mills were found operating in Kunduz, while Balkh alone is said to have 12 flour mills - many of which emerged recently. In Kunduz, apart from the two large flour mills, around 15-20 small flour mills have also started operating recently. These small flour mills in Kunduz and Balkh have installed cheap Chinese machines with a low capacity of 10 tons per day. Altogether, the production of flour in the northern region is increasing due to the higher supply from local production and imports, compared to other parts of the country.

However, Kabul-based flour mills face frequent challenges from Pakistani flours and very often stop production or run below capacity. These mills change their production based on the availability of Pakistani flour in the Kabul market. They keep a close eye on Pakistani flour imports and if the imports drop for some reason and supply becomes less, they quickly procure wheat and process it to wheat flour and sell to the market. These mills do not operate at full capacity, and on occasion they shut down entirely on account of competition from imported wheat flour and the unavailability of wheat grain, labour, or electricity at cost-effective rates⁷⁵.

Box 6.6. Kabul-based wheat flour mills struggle to compete against imported flours, while northern flour mills perform well

Ahmad runs a commercial flour mill in Kabul. He claims that Kabul has a demand of 3,000 tons of wheat flour every day, but he can only use a fraction of his production capacity due to the very low price of Pakistani flour. His annual production capacity is 24,000 tons, whereas he produced only 3,000 tons last year.

⁷³ Different sources provide different numbers of such commercial flour mills. The USDA, GAIN 2012 report (op.cit) mentions 12 commercial mills in Kabul, Mazar, Jalalabad and Herat, with a milling capacity ranging from 80 to 500 tons.

⁷⁴ S. Persuad, op.cit.

⁷⁵ USDA (2012), op.cit.

On the other hand, Hussain, the owner of the largest flour mill in Mazar, runs his factory year round. The current production capacity of the factory is 250 tons per day and it is running at full capacity. Both the capacity and the sales volume have increased in the past five years - from 50 tons to 250 tons capacity, and the annual sales volume has increased from 10,000 to 50,000 tons. Accessibility to raw materials (wheat grains) at an affordable price is the reason why he can run his mill profitably. Afghan wheat is mostly available from June to December, and he imports wheat from Kazakhstan to meet his demand.

Key message: The availability of raw materials (wheat grains) at a reasonable price is key for the flour mills to run profitably.

6.3.1.6 Cost breakdown along the value chain

In chapter 4, it was observed that Afghan wheat and wheat flour lost its price competitiveness further against Pakistani and Iranian wheat and wheat flour. Figure 6.11 shows the cost breakdown at different levels in 2012 and 2007 for both Afghanistan and Pakistan. The eroded price competitiveness for Afghan wheat can be observed under three cost elements, which increased significantly during the period 2007-12. These are: fertilizers, farm labour and milling. Interestingly, the only significant cost increase in Pakistan was for fertilizers, while the others remained more or less the same. Nonetheless, farmers' profits increased significantly in 2012, while those of millers shrunk.

Figure 6.11: Cost elements along the Afghan VC for one ton of wheat flour in 2012 and 2007*

Afghanistan											
2012	Inputs		136.57	Production, post-harvest & aggregation		122.02	Processing, transport & delivery		84.10	Miller price	451.95
	• Seeds		28.30	• Land preparation		34.78	• Transport from Aggregation to mill		9.83		
	• Fertilizer		99.04	• Labour over the period (sowing, planting, weeding etc)		19.06	• Labour for packing, Loading, unloading		1.57		
	• Crop protection		3.14	• Harvesting		29.48	• Milling cost		56.99		
	• Irrigation		6.09	• Threshing		32.42	• Packing material		15.72		
				• Aggregation cost		6.29					
				• Farmer sale		345.25	• miller sale		451.95		
				• Farmer profit		92.94	• miller profit		8.65		
				• Aggregator sale		359.20					
				• Aggregator profit		7.66					
2007	Inputs		72.6	Production, post-harvest & aggregation		102.08	Processing, transport & delivery		64.20	Miller price	343.00
	• Seeds		22.60	• Land preparation		27.20	• Transport from Aggregation to mill		8.00		
	• Fertilizer		43.40	• Labour over the period (sowing, planting, weeding etc)		14.40	• Labour for packing, Loading, unloading		1.20		
	• Crop protection		1.60	• Harvesting		24.40	• Milling cost		43.00		
	• Irrigation		5.00	• Threshing		32.60	• Packing material		12.00		
				• Aggregation cost		4.20					
				• Farmer sale		262.00	• miller sale		343.00		
				• Farmer profit		90.80	• miller profit		8.80		
				• Aggregator sale		270.00					
				• Aggregator profit		3.80					

*Aggregators are intermediary traders who collect large quantities of wheat from farmers and sell in bulk to mills. In a single value chain, there are several channels through which the product reaches the end market. The most indicative channel has been considered for each cost diagram. In the case of wheat (and to reach wheat flour mills), aggregation by trader suppliers is common, as mills require a large volume that individual farmers cannot supply. Hence, an aggregator-based channel is considered for cost analysis.

Table 6.9: Inputs cost as percentage of total production costs – Afghan wheat flour

Year	Fertilizer %	Irrigation %	Labour %
2012	38	2	32
2007	25	3	38

Table 6.9 shows that the price of fertilizer increased by 13 percentage points, under the overall production cost elements.

Figure 6.12: Cost elements along the Pakistan VC for one ton of wheat flour in 2012 and 2007

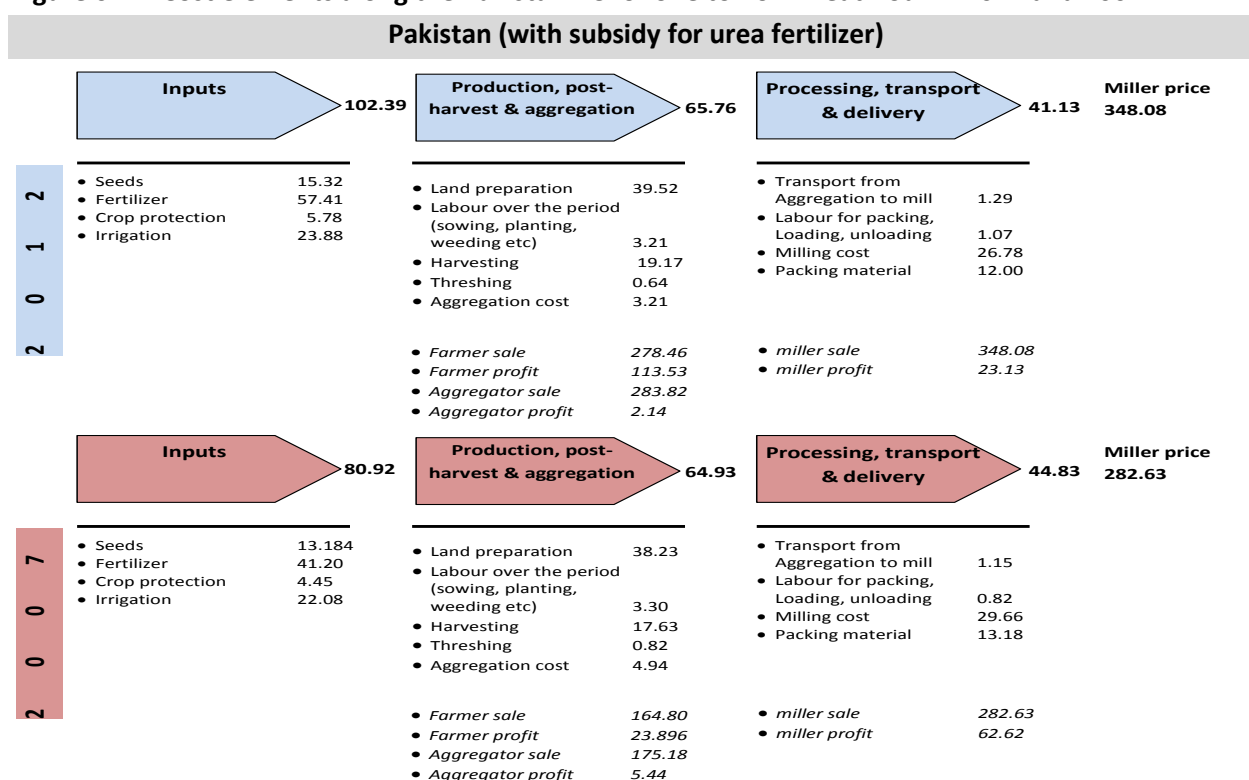


Table 6.10: Inputs cost as percentage of total production costs – Pakistan wheat flour

Year	Fertilizer %	Irrigation %	Labour %
2012	34	14	37
2007	28	15	41

Table 6.10 shows that Pakistan's fertilizer price increased by 6 percentage points, under the overall production cost elements, as opposed to the 13 percentage point increase in Afghanistan.

Figure 6.13: Cost elements along the Pakistan VC for one ton of wheat flour without subsidy in 2012

Pakistan (without subsidy on Urea fertilizer- a hypothesis*)				
Inputs		112.67	Production, post-harvest & aggregation	65.76
2 1 0 2	• Seeds	15.32	• Land preparation	39.52
	• Fertilizer	67.69	• Labour over the period (sowing, planting, weeding etc)	3.21
	• Crop protection	5.78	• Harvesting	19.17
	• Irrigation	23.88	• Threshing	0.64
			• Aggregation cost	3.21
			• Farmer sale	278.46
			• Farmer profit	113.53
			• Aggregator sale	283.82
			• Aggregator profit	2.14
			Processing, transport & delivery	41.13
			• Transport from Aggregation to mill	1.29
			• Labour for packing, Loading, unloading	1.07
			• Milling cost	26.78
			• Packing material	12.00
			• miller sale	348.08
			• miller profit	23.13
			Miller price	
			348.08 +10.28 =	
			358.36	

* The cost increase due to a hypothetical withdrawal of subsidy is added to the miller price, keeping the profit margin the same at farm level.

On the basis of this hypothesis that the subsidy on urea would be withdrawn, the Pakistani wheat flour price would increase by only USD 10.28 per ton and still be much lower than that in Afghanistan (358 USD vs 452 USD in 2012). Withdrawing the subsidy would not therefore affect Pakistani wheat competitiveness that much.

6.3.1.7. Support services market

Transacted services: Transacted services within the value chain include: tilling services for land preparation in farming; threshing services post-harvest; milling service for obtaining flour from wheat; and clearing and forwarding services for international trading.

Generic services: Generic services mainly include transportation and finance.

Public benefit/free services: DAIL provides extension services to the farmers and also implements different project in collaboration with various development organizations/NGOs. Some development agencies such as FAO, GIZ and different NGOs provide improved wheat seeds to the farmers. The improved seeds have proven to be useful in enhancing the wheat yield in many provinces of Afghanistan.

Embedded services: Input retailers are apparently the sole embedded service providers who advise the farmers on inputs usage during the transaction.

6.3.1.8 Cross-cutting issues

Women are engaged in activities such as weeding and harvesting. Those from poorer families help in irrigation duties, but usually men do this job. Women are more involved in post-harvest activities. After the men have finished threshing mechanically, the women clean, scale and pack the wheat grains in bags. They also take care of storing the wheat at home and for livestock animals. All these activities are unpaid. In wheat farming, children help in land preparation and supply food to the labourers working on the land. They do these jobs after school hours.

6.3.1.9 Constraints and opportunities

When adopting the methodology of triangulation to survey the competitiveness situation in the subsector with relation to value chain dynamics, it is possible to identify a number of key constraints – many of which are interlinked.

Constraints

1. Low yield of wheat. As described earlier in the text, even the best harvest years in Afghanistan cannot meet the local demand, and the weather is a strong determinant of local production. While there is a clear trend of increasing production, the yield growth is erratic. The comparison of the wheat yield in the three countries under review (figure 4.20) shows that Afghanistan's wheat yield is significantly lower than that of Pakistan. One major reason for such a low yield is the poor quality seed used by the farmers (only 10 per cent of good quality seeds are currently available). Other major reasons affecting the yield are the poor irrigation infrastructure and the high price of fertilizers, which force farmers to use less (linked partially with the third constraint below).

2. Limited local supply. As previously mentioned, only 10 per cent of the local production reaches the market for trading, and this prevents the formal sector (processing industry) from flourishing. The strong dependence on weather (rainfall) forces the resource poor farmers to stock their produce rather than to sell it in the market. Consequently, imported flours (mostly from Pakistan) dominate the retail flour market. Nonetheless the constant supply enables the flour mills to run profitably, as is the case in the northern part of the country (local supply plus imports from Kazakhstan). On the one hand, the yield needs to be increased to enable farmers to sell their marketable surplus (constraint 1), and on the other hand, poor farmers have to have sufficient financial management know-how (linked with the third constraint) to ensure that they do not become food insecure, even if they sell part of their harvest in the market.

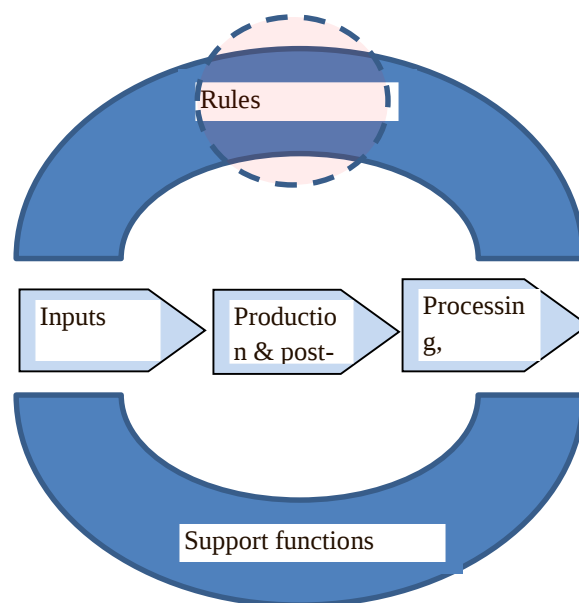
3. Farmers' poor financial management. This constraint seems common across all subsectors. Ninety per cent of the farmers who fail to sell their wheat demonstrate poor financial management capacity. While it is understandable that farmers are worried about food insecurity, holding stock comes at a cost. The fact that they use fewer fertilizers because of their high price, buy on credit at a higher price, have a lack

of working capital due to unplanned expenditures, and maintain a number of outstanding loans (explained in Section 5.1.3) is a sign of poor financial management capacity.

6.3.1.10 Proposed interventions

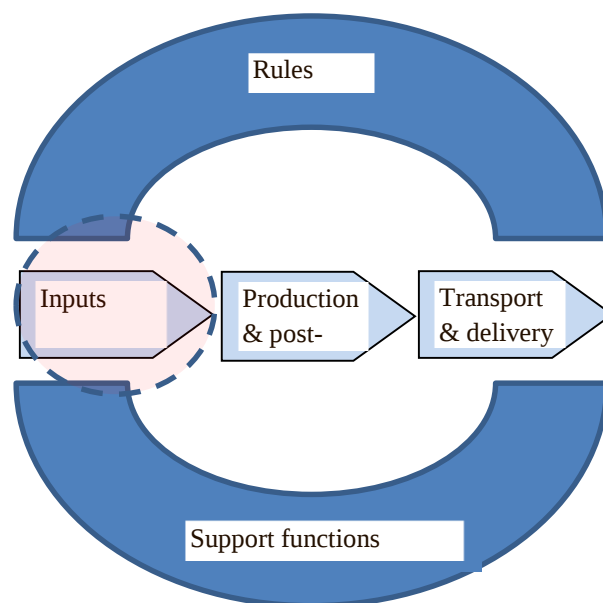
1. Facilitate policy review to check economic viability to adjust the production cost.

Wheat is the main staple food in Afghanistan. Despite the fact that it has further lost price competitiveness, the production trend is positive, which indicates the dependence on wheat production for the majority of the farmers. The cost elements along the value chain show that Afghanistan lost its price competitiveness because of the significant price increase in fertilizers. Hence, a policy review to check economic viability with a view to offering subsidies for fertilizers for wheat production might be considered, although the widening price gap with Pakistani wheat and wheat flour, as well as the Government's tight fiscal space, would make this option impractical - at least in the short term.



2. Stop further erosion of price competitiveness by supporting private wheat seed distribution.

In the current competitiveness situation, Afghan wheat and wheat flour is not competitive compared to the produce of Pakistan or Iran. One way of putting a halt to this erosion and to regain lost competitiveness is to reduce the unit production cost by improving yield, which is much lower in Afghanistan. Development channels have so far failed to provide the momentum of improved wheat seeds among the farmers, due to the flaws in the distribution system. The private sector channels (mainly imports) should be assisted in developing a quality wheat seed market, where farmers would have increased awareness of the benefits of using quality seeds.



6.3.1.11 Job implications⁷⁶

It is estimated that there are currently 480,011 wheat farm households. Ninety per cent of these - or around 432,000 farmers - cannot sell their produce to the market. If the above constraints could be addressed and there was only a 10 per cent increase in yield (box 5.6 shows that even a 50 per cent increase is achievable), the following scenario would be feasible.

In 2012, the local production was 5.05 million tons; a 10 per cent increase in yield would result in 5.565 million tons (an additional 0.5 million tons).

Table 6.11: Job creation potential of the wheat VC through 10 per cent increase in yield

<i>Elements of jobs creation potential</i>	<i>Estimate (new working days)</i>
At farm level – labour required for additional harvesting	6,250,000 (80 kg harvest by one working day)
Threshing services	500,000
Wheat wholesaling (loading, unloading)	500,000
Wheat flour processing	250,000
Wheat flour marketing (loading, unloading, wholesaling, retailing)	1,250,000

A 10 per cent increase in yield could therefore create around 8.75 million working days.

6.3.2 Pakistan

Wheat is the largest crop in terms of its volume of production and land occupation in Pakistan. It is the main staple food for the majority of the population, accounting for almost 72 per cent of caloric energy in the average diet. Wheat production increased steadily during the past decade, from the standpoint of both area coverage and increase in yield (a 25 per cent increase since 2002).

While the production cost of wheat is low (Figure 4.21), as a result of the Federal Government's price support system, Pakistan's domestic wheat prices are 10 per cent higher than those on the international market. This places Pakistani wheat at a disadvantage in the international markets but feasible in adjacently located markets - for instance Afghanistan, which has traditionally been a major market for Pakistan to dispose surplus wheat flour (although it has mainly had to deal with inconsistent trade policies with regard to wheat). As an indication of its losing market share, Afghanistan (especially the northern

⁷⁶ Note that the following calculation was done on the basis of the initial assumption informed by the original field interviews where the total number of farm households producing wheat was estimated to be around 480,011. While the latest estimate on the basis of ALCS 2013-14 data is 1,773,000 farm households, which is 3.69 times higher than the original estimate used by the team, the following calculation is kept unchanged as a conservative estimate when Afghan wheat nor wheat flour have no price competitiveness vis-à-vis those of Pakistan and Kazakhstan.

part) is increasingly importing wheat from Central Asian countries. The major export markets for Pakistani wheat flour are Afghanistan, Bangladesh, Kenya, the Gulf States, Kenya, Sudan, Sri Lanka and Yemen.

The channels within the value chain include both the domestic market as well as the export market, although the latter is only limited compared to the former. The power structures are mostly modular-based, as the Government's assigned procurement authority buys directly from the farmers first - with a guaranteed purchase price. Once the Government target procurement is over, it becomes a market-based power structure.

Wheat is grown by almost 80 per cent of all farmers, and covers nearly 40 per cent of the country's total cultivated area. The wheat value chain meets the consumption needs of about 35-40 per cent of the population, with the balance met by on-farm consumption⁷⁷. Most of the farmers source their seeds from private-sector seed companies, followed by those who use their own retained seeds from the previous year's harvest.

Women are involved only in production-related activities. They are also engaged in the post-production handling, especially wheat storage and cleaning. Children work on farms to a limited extent but are not paid. They work as part of the family business, assisting the elders in certain operations.

The wheat subsector grew impressively during the past decade. The average annual price of wheat at the retail level increased by almost 294 per cent between 2003 and 2012 (Economic Survey of Pakistan, 2013). The wheat sector is still considered to be under the strong influence of the Government. It is affected by the price support system, the ban on sales before the Government procurement is over, and the occasional ban on the export of wheat and wheat flour. The Government has occasionally monitored wheat flour exports by means of export permits and the quota system. Strict regulations provide an incentive for informal trade, and have had a limited success (especially with respect to attempts on curbing smuggling). Minimizing government interventions and eliminating policy distortions would have a positive impact on improving governance of the value chain. The price support policy undeniably motivates farmers to keep producing wheat. But on the flip side, it affects the competitiveness of the sector. De-regulation of the wheat sector would increase the efficiency of resource allocation and competitiveness of the value chain as a whole, in terms of its ability to produce and supply diversified and demanded products.

On the other hand, Pakistan has considerable potential to increase its exports of high-quality wheat seeds to Afghanistan. This could be a win-win solution for both Pakistan and Afghanistan. Pakistan has good-quality wheat seeds that are imported to the Afghan market, but on a very limited scale. Patronizing such wheat seed importers in Afghanistan (and exporters from Pakistan) would therefore be a more market-driven and sustainable approach. Pakistan's current export is limited to wheat flour. There is a potential for initiating the commercial export of certified wheat seeds to Afghanistan and other Central Asian countries through Afghanistan. This does happen at the individual level (to some parts of Afghanistan,

⁷⁷ USDA, 2012, op.cit,

notably Nangarhar and Kandahar) but not to a great extent - owing to regulatory barriers that should be addressed. The seed companies in Pakistan need to be linked to distributors in Afghanistan for the production of appropriate seed varieties for cultivation in different agro-ecological areas.

6.3.3 Islamic Republic of Iran

Wheat is possibly the most important crop consumed in Iran and, as such, might justify the strong presence and control of its production by the Government over the past few years. This has been imposed through procurement, price determination and controlling imports. Despite being such an important consumption commodity, Iran has not been able to develop self-sustainability in the crop and relies on imports to address excess demand. Iran exports a limited amount of wheat and wheat flour - mainly to Afghanistan - but not in large quantities. Hence, the value chain mainly leads to the domestic consumption market.

There are several channels within the value chain that are mostly market-based. However, the Government's direct procurement channel through farmers' cooperatives also entails a modular power structure. The cooperative gathers the required volume from its farmer members and delivers it to the government procurement department. After the adoption of the Targeted Subsidy Act, there are indications that the power structure is becoming more-market oriented than before. Wheat prices are being differentiated on the basis of quality, and more and more private-sector players (wholesalers, retailers) are joining the value chain.

The introduction of the Targeted Subsidy Act has also allowed the market to compete freely on the basis of quality, which did not happen before. Before the Iranian targeted subsidy plan was implemented, the Government (Granary Organization) used to buy the wheat at a guaranteed price from the farmer, irrespective of its variety. The purchased wheat would be taken to the milling factory, which would process it into flour after getting its milling commission - and then the Government would retrieve the flour and deliver it to bakeries. There was no competition along this chain because the quality of wheat was not important to the farmer. The milling industries also had to turn the wheat into flour in their capacity as the Government's contractors, and finally the baker had to make bread from the flour he got without caring about the customers' satisfaction.

The Iranian targeted subsidy plan was, therefore, designed to reform these structures. The price of the wheat became linked to its quality. The milling factories were allowed to mix different wheat varieties and to produce higher quality flour. The consumers had the choice of buying the flour from any factory they wished. In order to put the targeted subsidy plan for wheat, flour and bread into practice, the Government's policy has been, since March 2011, to enhance the quality of the cultivated wheat by reconsidering the quality standards for wheat purchases. This has led to the strengthening of the private sector.

6.4 Rice value chain

Section summary: *Despite an increase in rice consumption in Afghanistan, the country's eroding price competitiveness against Pakistani rice to parity poses a challenge. Afghanistan's loss of price competitiveness at the rice miller level may be attributed in part to the increasing cost of fertilizers, the use of low-quality seeds and farmers' poor financial management. An initial idea might be to introduce fertilizer subsidies to cope with the situation, but such a policy would not be fiscally feasible - at least in the short term. On the other hand, Pakistan rice will remain price-competitive even without subsidies. Imposing tariff and non-tariff trade barriers on rice imports could provide short-term protection of the domestic rice production, but it would only make sense if the overall production cost in the country could be lowered significantly in the medium-term to regain the competitiveness of the distressed sectors such as rice. Pakistan produces both high-quality basmati rice and coarse rice for the international market, and rice exports receive exemptions from export duty through special concessions. Most exporters have also acquired ISO certification, which may increase efficiency in processing. Iran has become one of the main rice-importing countries due to its increase in oil revenues and changing consumer habits of urban dwellers. It has been losing its price competitiveness due the Government's control and periodic restrictions on rice imports.*

The current competitiveness situation with respect to rice in Afghanistan, Pakistan and Iran was described in chapter 4. This section explains the value chain dynamics that have been in play alongside the exchange rate/price issues, resulting in the current status. The situation in Afghanistan is described in more detail, and only a synopsis is given for Pakistan and Iran (details are in the main report). Value chain maps have been used to explain the dynamics.

6.4.1 Afghanistan

Figure 6.14 shows the Afghanistan rice value chain map. The key issues emerging from this map are discussed below.

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Figure 6.14. Rice value chain map of Afghanistan

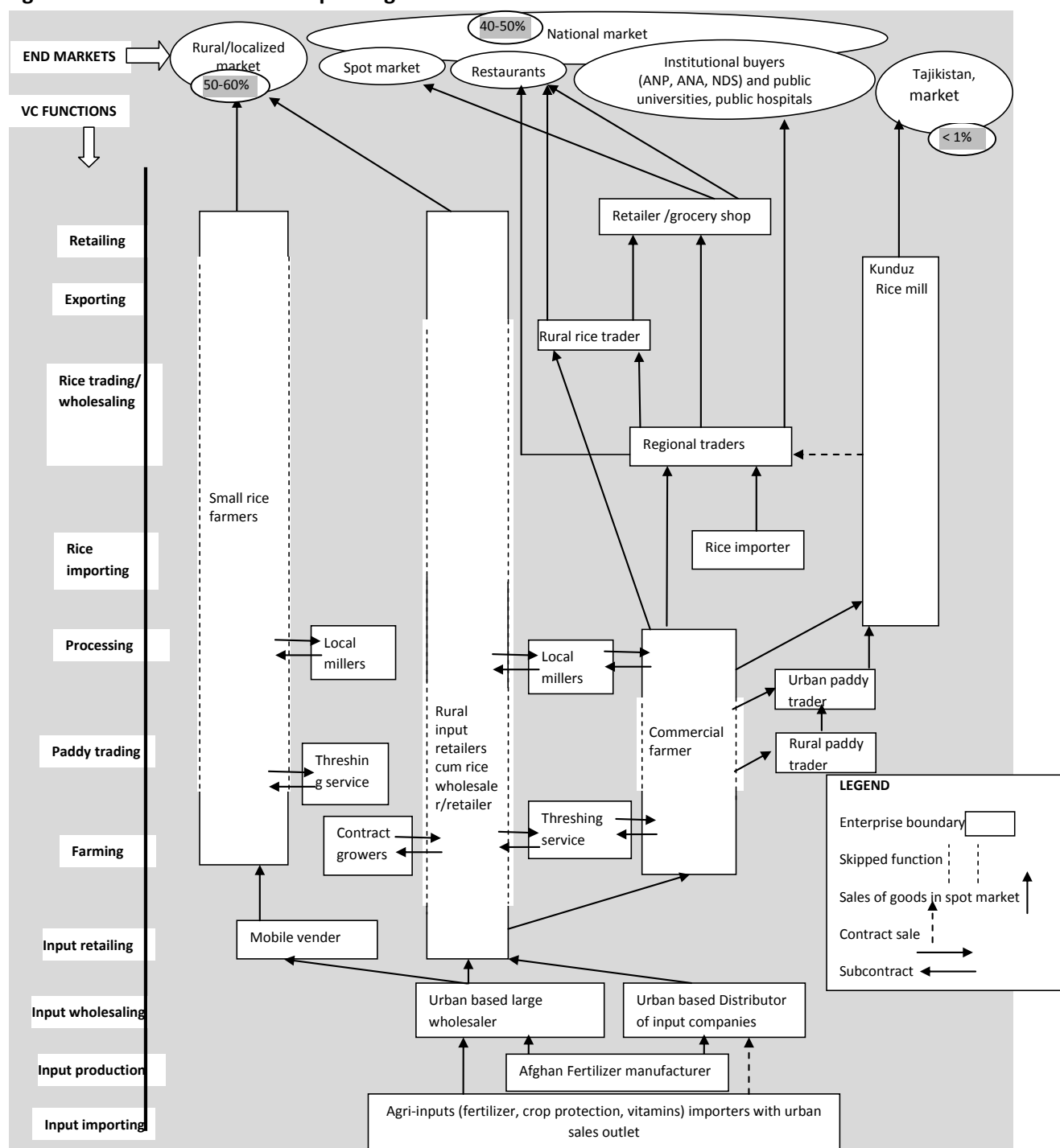
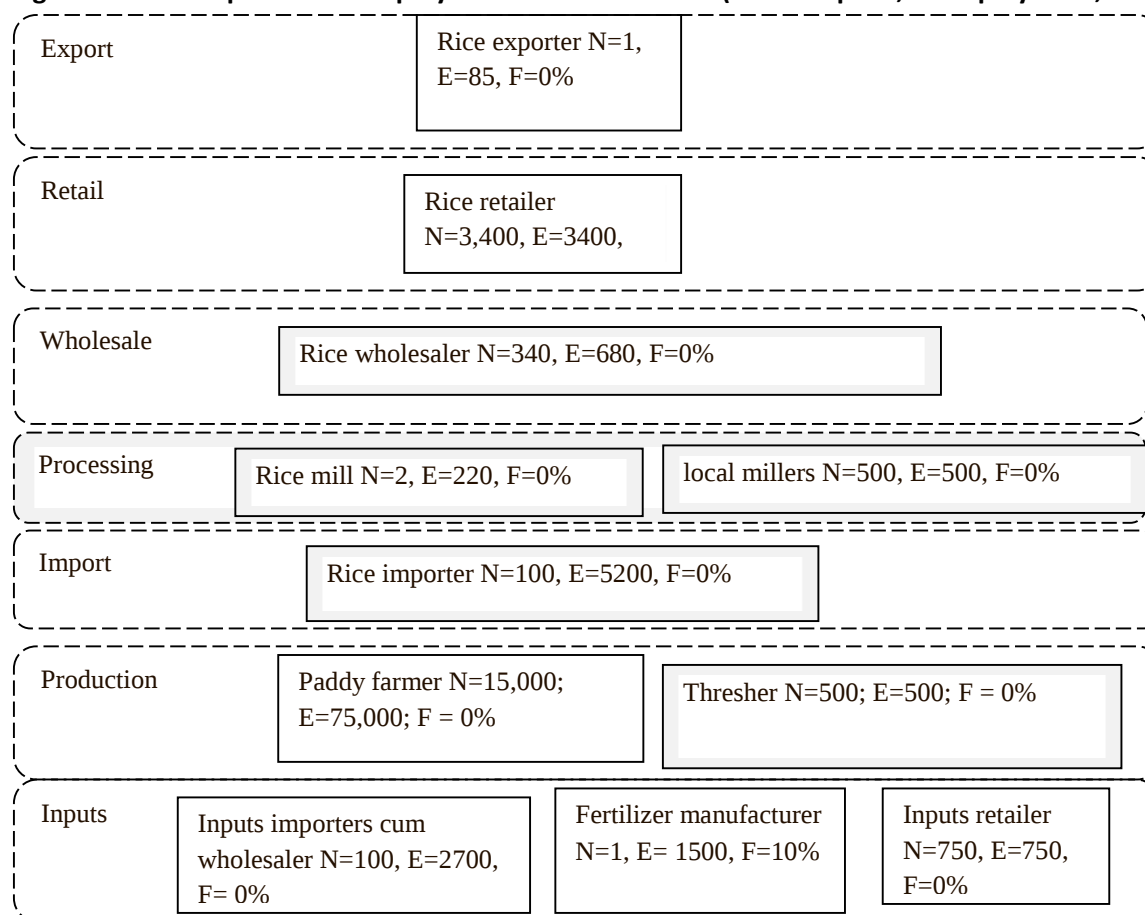
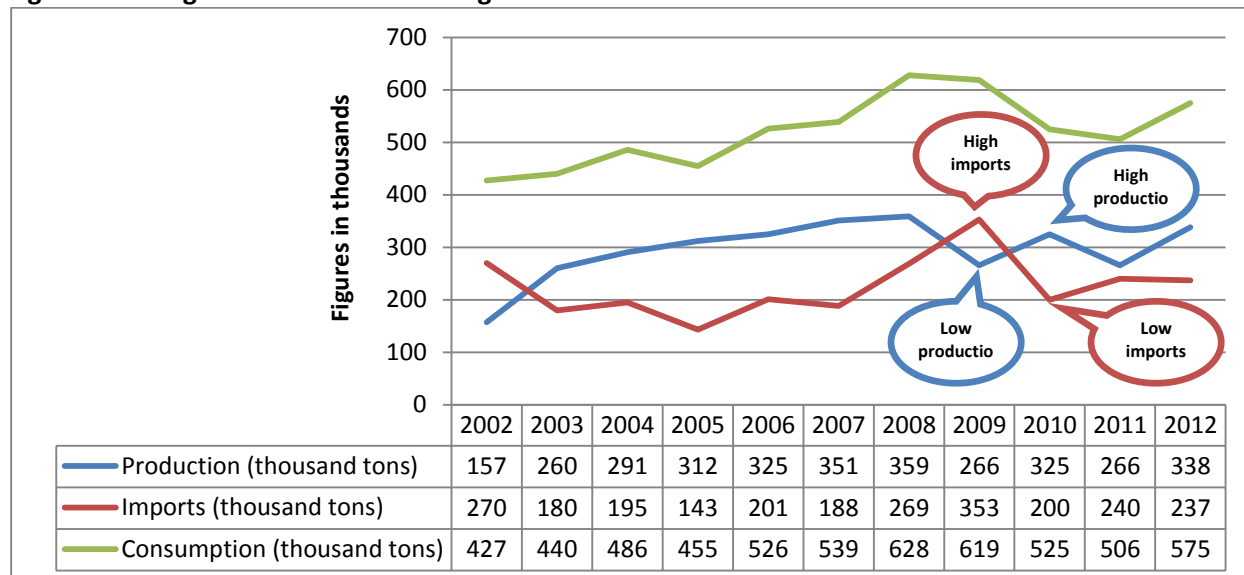


Figure 6.15. Enterprises and employment in the subsector (N= enterprise, E=Employment, F=Female)

6.4.1.1 End markets

Afghanistan imports rice to meet local demand. Only very recently - and in a very limited quantity – has it has been exporting rice to countries such as Tajikistan. The end market of the rice value chain is therefore mainly the domestic consumption market. While there is the localized market, the national market includes institutional buyers such as the Afghan National Army (ANA), the Afghan National Police (ANP) and the National Directorate of Security (NDS). In addition, numerous restaurants consume a large amount of rice - mostly imported varieties. The local production mostly consists of the short-grain/coarse *Shula* variety and caters to the local market. The national market is dominated by the imported long-grain *Sela* variety, although there is some local production of this type or the equivalent, for the most part in Baghlan, Kunduz and Takhar province. As shown in figure 6.10, 50-60 per cent of the total market (local production plus imports) targets the localized market, while 40-50 per cent caters to the national market. On the flip side, more than 70 per cent of the local production is of the *Shula* variety. Farmers in the first and second channels mostly produce local *Shula* rice and cater to the localized market, while most farmers in the third channel produce *Sela* rice.

Figure 6.12. Afghan milled rice market growth trend

The Afghan consumption market reveals the interesting dynamics of local production against imports, as shown in figure 6.12. It may be observed that there has been a constant increase in consumption since 2010. The figure also shows that, in 2009, the local production was low, which was offset by the increased amount of imports and vice versa in 2010. This phenomenon also continued in the following years. According to GAIN (USDA 2012), consumption will continue to increase in future years as rising incomes and increasing urbanization in Afghanistan's major cities will increase per capita consumption. However, Afghanistan's constantly eroding competitiveness against Pakistani rice is a problem (figure 4.23). Hence, the present trend may not continue in the future, as Pakistani rice may take over Afghan rice in the Afghan market. Box 6.7 also indicates this losing price competitiveness.

Box 6.7. The actual FoB value of rice exports from Pakistan did not increase during the 2007-12 period.

Zia is a Kabul-based rice importer. He imports rice directly from rice mills in the Punjab (Pakistan). He has observed that the demand for rice is increasing every year in the domestic market. His transaction with the supplier is always in PKR and not in Afs. Consequently, he saw an increase in the price of rice from 2007 to 2012. He bought "Sela Awal" at the rate of 60 PKR/kg in 2007, which increased to 100 PKR/kg in 2012. However, when the currency exchange rate is taken into account, the buying price remained almost the same during this period - 1.07 USD per kg in 2012 and 0.99 USD per kg of rice in 2007.

Key message. The unfavourable currency exchange rate in Afghanistan has given the competitive advantage to Pakistani rice against Afghan rice in the Afghan market.

6.4.1.2 Channels and governance structure

The rice value chain in Afghanistan is comprised of five distinct channels. A description of the five channels with their inherent power structure follows here below.

1. Small farmer-based localized market channel: market-based

This channel includes farmers who grow a limited quantity of rice and retail it by themselves in the localized market, directly to the consumers. Almost all farmers produce the *Shula* variety of rice.

2. Input retailer-based vertically integrated market channel: captive power structure

Some local agri-input retailers in northern Afghanistan provide inputs on credit to the farmers to grow rice. They then buy back the harvests and sell the rice in the local market. Under this kind of informal contractual arrangement, farmers are given a lower price for their produce. Farmers continue to deal with these retailers in the coming year to receive the credit facility, which makes the channel captive in nature. However, these farmers also mostly grow the *Shula* variety of rice. This channel is exploitative in nature, as the price that farmers receive from these input retailers is at least 15 per cent lower than the market price.

3. Vertically disintegrated national market channel: market-based

This channel includes many more intermediaries before the rice reaches the end market. This channel also includes the two commercial rice mills located in Kunduz and Jalalabad. The commercial farmers involved in this channel produce the *Sela* variety.

4. Imported rice channel: market-based

This channel deals with imported rice, mostly from Pakistan, and merges with the third channel downstream of the value chain. Most of the rice imported is the long-grain *Sela* variety.

5. Export channel: relational power structure

A small portion of Afghan rice is exported through the rice mill in Kunduz. The export destination is Tajikistan. To ensure the quality of the rice, the exporter has a contractual arrangement with farmers, which makes the power structure relational. This contractual arrangement is facilitative as the contractor provides inputs and credit support and buys the product at the market price.

When observing the overall power structure, it is evident that the small farmers mostly produce the long-grain *Shula* variety to sell in the localized market and fall under either the category of the market-based or captive power structure. For their part, the commercial farmers are better linked with the national market, with a better access to inputs and knowledge. There are different market segments for both short and long-grain varieties, both of which are growing - yet as far as price competitiveness is concerned, Afghan rice is threatened by Pakistani rice.

6.4.1.3 Farm level production status

Farmers may be classified in three categories, as observed from the value chain: first, those who grow rice in a limited quantity and sell it in the local market; second, those who work for local agri-input retailers under an informal production contract; and third, those who grow rice commercially on a larger scale. Although the first category of farmers prevails in many parts of Afghanistan, the second and third categories are more confined to the northern and north-eastern regions of Afghanistan because of the favorable agro-climatic conditions. The first and third category farmers sell rice (not paddy) as they get their paddy milled by local milling service providers.

It was found that most of the rice farmers (75 per cent) buy seeds from other farmers in the village, while 11 per cent use their own retained seeds from the last years' harvests. Only the remaining percentage buys seeds from the market (which are basically farmers' seeds). This has a clear implication - the yield of Afghan rice is very low compared to that of Pakistan and Iran. While the unfavourable currency exchange rate has affected the price competitiveness of Afghan rice, the lower yield has exacerbated the situation. Like other agricultural crops, rice production is also affected by the increased price of fertilizers, and many poor farmers have economized on the amount of fertilizer they use, thus compromising the yield.

Box 6.8. RIPA project promoted rice seeds results in higher yield

Daoud is a commercial rice farmer in the Pul-e-Khumri district of Baghlan province and he cultivates rice on his 30 jeribs of land. In 2012, he cultivated the Surkha rice variety (traditionally he cultivates this variety) on 29 jeribs of land, but he cultivated the RIPA promoted variety (PB3) on his remaining jerib as he had received the seeds and Urea free of cost from the project. He was amazed to see the results. From the traditional variety he received a yield of 770 kg per jerib, while for the PB3 variety he received 1,260 kg per jerib. Furthermore, he also received a higher price for the PB3 variety (300 Afs/kg), while he received 280 Afs/kg for the traditional variety - Surkha.

Key message: Improved rice seeds not only increase the yield but also the price of the rice.

The overall harvesting process is poor and there is a significant loss of crops. It is estimated that traditional methods of harvesting, drying and threshing can lose up to 20 per cent of the paddy through shattering and spoilage and this is equivalent to 96,000 tons of paddy per year.⁷⁸

6.4.1.4 Cost breakdown along the rice value chain for one ton of rice in 2012 and 2007 (in USD)

The eroded price competitiveness of Afghan rice may be observed under three major cost elements in the value chain in order of the increase in absolute value - farm labour, fertilizer and milling. During this period (2007-12), farmers' profits shrunk, although millers' profits increased marginally. The overall wholesale/miller price increased significantly.

⁷⁸ Comprehensive Agriculture and Rural Development Facility (CARD-F): *Economic Development Packages -Rice value chain in Afghanistan* (2012).

On the other hand, during the same period in Pakistan, the wholesale/miller price actually decreased slightly. The highest cost increases were related to irrigation, farm labour and milling. Farmers' profits actually shrunk, although those of millers increased.

Figure 6.16. Cost elements along the Afghan VC for one ton of rice in 2012 and 2007

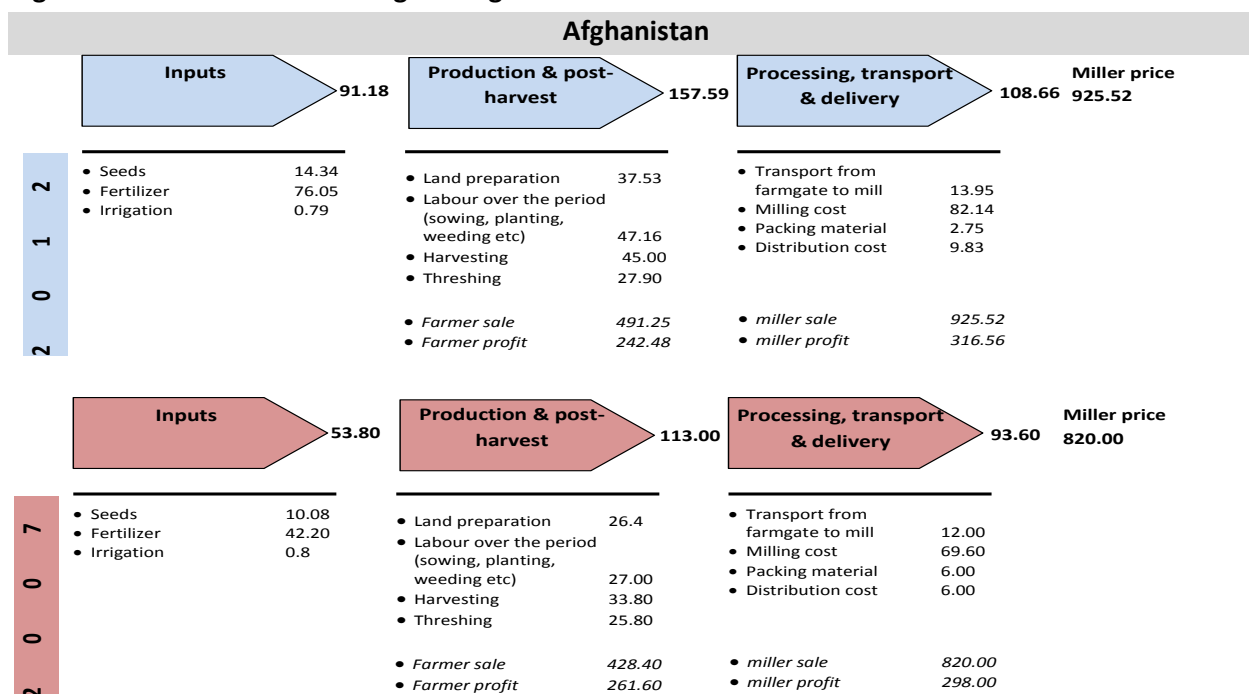


Table 6.12: Inputs cost as percentage of total production cost – Afghan rice

Year	Fertilizer %	Irrigation %	Labour %
2012	31	0.3	52
2007	25	0.5	52

It may be observed that fertilizer was the major contributor to overall production costs in 2012 in Afghanistan, an increase of 6 percentage points over those in 2007.

Figure 6.17. Cost elements along the Pakistan VC for one ton of rice in 2012 and 2007

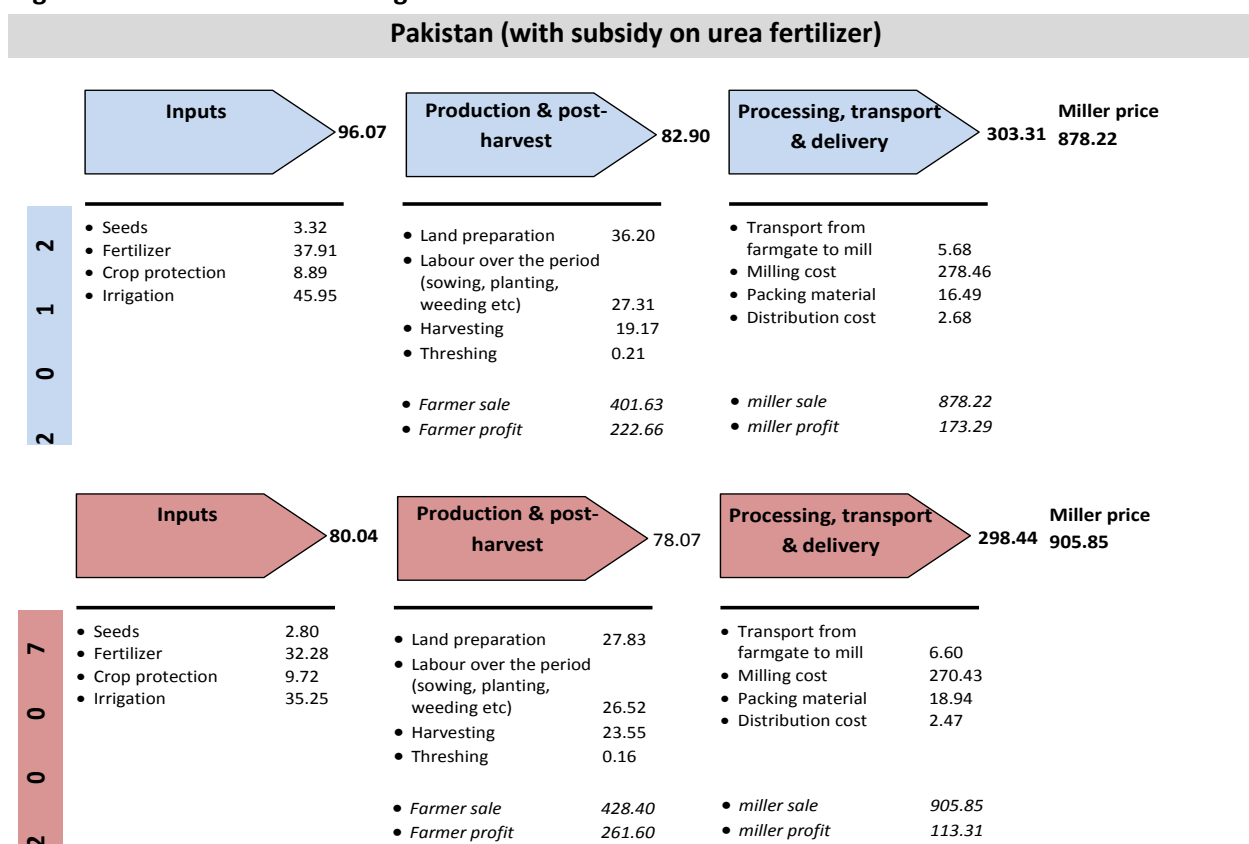
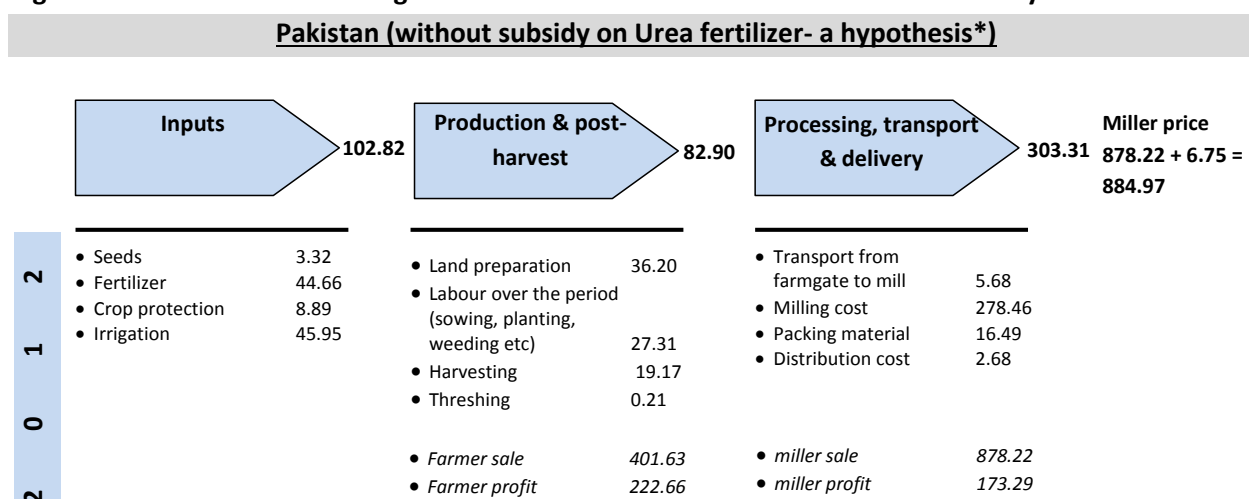


Table 6.13: Inputs cost as percentage of total production cost – Pakistani rice

Year	Fertilizer %	Irrigation %	Labour %
2012	34	15	48
2007	31	14	53

As opposed to the 6 percentage point increase in Afghanistan in its fertilizer cost contribution to the overall production cost during the 2007-12 period, Pakistan experienced only a 3 percentage point increase in this area.

Figure 6.18. Cost elements along the Pakistani VC for one ton of rice without subsidy in 2012



* The cost increase due to a hypothetical withdrawal of the subsidy is added to the final wholesale price, keeping the profit margins the same at farm level.

As in the case of wheat, withdrawing the subsidy for urea fertilizer completely would not have much effect on the price competitiveness of Pakistani rice. As the hypothetical cost diagram (figure 6.18) shows, it would increase the wholesale miller price by only USD 6.75 per ton of rice. The miller price without subsidy is still much lower than that in Afghanistan.

6.4.1.5 Support services market

Transacted services

The transacted services within the value chain include: commission agents (the brokers facilitating the trading in market places), threshing services after the paddy harvest; and milling services.

Generic services

Like other subsectors, this also includes transportation, packaging and financial services.

Public benefit/free services

DAIL provides extension services, and a number of NGO/development projects support the subsector. JICA backed the RIPA project promoting improved rice seed varieties and cultivation techniques, among others. The Aga Khan Foundation (AKF) supports projects on rice plantation techniques in Baghlan and Takhar.

Embedded services

Here again, the input sellers work as the embedded service providers for the farmers.

6.4.1.6 Cross-cutting issues

Women are involved to a certain extent in planting seeds/seedlings after preparing the land, as well as in weeding. They often protect the farm from bird attacks, which can be a problem before the harvest; but they are mostly engaged in post-harvest activities. They convert rice from paddy, clean, grade, scale the rice, and then pack it in bags for their male counterparts to take to the market. However, they are not paid for these jobs. Like in other agricultural sectors, the children of the family help their fathers and elder brothers on the farm after school hours. They help in land preparation, irrigation and weeding, and also in protecting the farm from bird attacks. Similarly, they help their seniors during harvesting, collect paddy while threshing and process paddy to rice.

6.4.1.7 Constraints and opportunities

When adopting the methodology of triangulation to survey the competitiveness situation in the subsector with relation to value chain dynamics, it is possible to identify a number of key constraints – many of which are interlinked.

Constraints

1. Eroding competitiveness. As seen in figure 4.23, Afghan rice is losing its competitiveness against Pakistani rice – it was almost at parity in 2012. The Afghan farmers' perception that there is a decreasing demand for rice and fewer profits for local production also strengthens the argument that Pakistani rice is increasingly posing a threat to local production. However, the retail price mapping contained in figure 4.24 shows that Afghan rice (both varieties) is still competitive in the domestic market, as Pakistani rice has to reach the Afghan market after adding transportation costs, tariffs and other formal and informal costs to its basic price. Nevertheless, if this trend of increasing competitiveness on the part of Pakistan continues, Pakistani rice may completely take over Afghan rice.

2. Use of low-quality seeds. On the one hand, Afghan rice is losing its price competitiveness, and on the other hand, Afghan farmers are using low-quality seeds – resulting in a poor yield that makes farming even less profitable. When making a yield comparison between the three countries under review, it may be seen that the yield of Afghan rice is half that of Iranian rice and almost 40 per cent less than that of Pakistani rice.

3. Poor post-harvesting processes. The farmers' poor knowledge of post-harvesting processes results in a net loss of around 100,000 tons of rice, which could have been added to their income.

4. Farmers' poor financial management. This is a common problem found in all sectors and results in poor farm management on the whole.

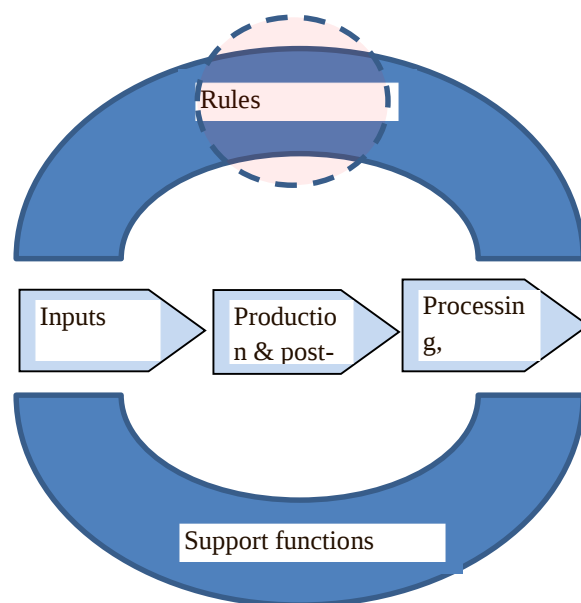
Opportunities

1. Expanding consumption market. The rice consumption market is expanding as a result of urbanization and an increase in per capita consumption. With this increasing consumption market, Afghan rice production is increasing alongside imports. If the currency exchange rate issue could be tackled, Afghan rice production could grow even more.

6.4.1.8. Proposed interventions

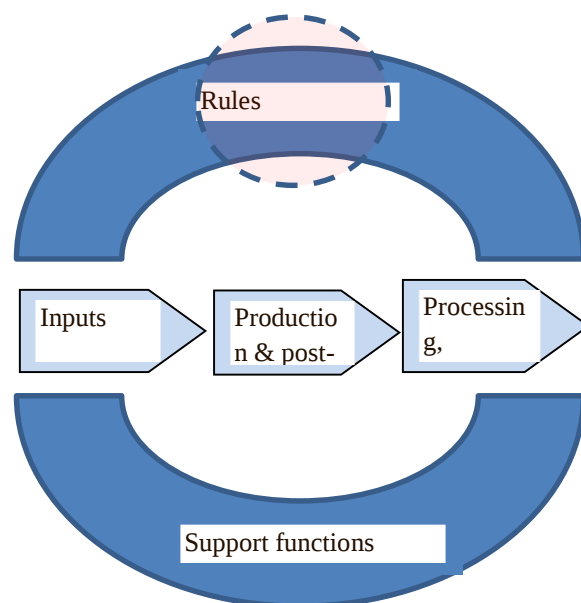
1. Facilitate policy review to check economic viability to adjust the production cost.

Rice is the second most important staple food after wheat in Afghanistan. Although it was price-competitive in 2007, Pakistani rice almost reached price parity with Afghan rice in 2012 at the wholesale level, and has become far less expensive at the miller level. If this trend continues, Afghan rice may lose its domestic market and export possibilities to the Central Asian market in the near future. The cost elements along the value chain show that Afghanistan lost its competitiveness due to the significant rise in the cost of fertilizers. Hence, a policy review to check the economic viability of offering subsidies for fertilizers for rice production might be considered, but the current fiscal constraints will not provide space for such a policy - at least in the short term.



2. Review trade policy to check the viability of protecting domestic rice production and thereby jobs in the sector.

Afghanistan's trade policy is very liberal with respect to imports. In 2012, only 2.5 per cent import duty was imposed on rice - with no other visible non-tariff trade barriers. The policy-makers might envisage imposing different tariff and non-tariff trade barriers on rice imports to protect the domestic rice production. However, this would have implications, such as an increased consumer price. It would only make sense if and when Afghanistan's overall production costs could be significantly reduced to make the distressed sectors, such as rice, once more competitive in the medium-term.



6.4.2 Pakistan

Rice is the second most important staple food after wheat in Pakistan. Rice production is comprised of 40 per cent basmati (long-grain) and 60 per cent coarse (short-grain) varieties. The end market comprises both the domestic and export markets. In 2012, Pakistan exported 3.27 million tons of rice (both basmati

and coarse varieties). Basmati rice has its major markets in the United Arab Emirates, Iran, Oman, Saudi Arabia, the United Kingdom, Australia and Qatar, while coarse rice is mainly exported to China, Kenya, Afghanistan, the United Arab Emirates, Madagascar, Mozambique and Saudi Arabia. Afghanistan is a traditional market for parboiled rice, mostly made from super kernel - targeting the high-end market (referred to as *Shela* in the Afghan market) - and broken rice (referred to as *Shula* in the Afghan market), which targets the mainstream market. The share of broken rice in total rice exported to Afghanistan in 2012 was 68 per cent in term of volume, and 58 per cent in terms of value.

The rice value chain in Pakistan is comprised of three distinct marketing channels. The domestic marketing channel includes the flow of rice paddy from producers through traders to processing factories, rice distributors and retailers in the domestic markets. This channel commands 35 per cent of the rice produced in the country, and has a market-based power structure. The export market channel is predominant and differs from the local channel from the point of processing onwards. Exporters manage the product flow once processing has been completed. This channel accounts for 50 per cent of the rice processed in the country. This channel exhibits both a market-based and relational power structure. The third channel demonstrates a vertically integrated rice exporters' channel, extending from production to export with all operations undertaken by a single enterprise. The share of this channel is less than 10 per cent and caters to the higher-end domestic market. The channel has a captive power structure.

Rice farmers are divided into two categories - semi-commercial and commercial. There are very few semi-commercial farmers and they produce limited quantities, of which they sell a small surplus volume; they consume most of their harvest themselves. Most farmers can be considered commercial farmers, especially in the Punjab and Sindh, and they produce high-value basmati and coarse rice for domestic and international markets. The agro-ecological conditions of the Punjab and Sindh are particularly well suited for high quality basmati rice. Rice is also cultivated in the provinces of Kyber Pakhtunkhura (KPK) and Balochistan, and it consists mostly of a mix of basmati, IRRI and local varieties grown to meet local demand. Farmers are concerned about increasing prices of inputs and water scarcity. Input costs can be offset by increasing retail prices, but water shortages make it impossible to increase the acreage for rice growing. Rice is either harvested manually or with the help of combined harvesters. Most of the semi-commercial farmers harvest paddy manually before it is threshed. However, most commercial farmers harvest paddy with the help of combine harvesters.

The most important policies relevant to the rice value chain are the trade policy governing the export and import regime, and the subsidy (on nitrogenous fertilizers) and price support policies. Rice exports receive exemptions from export duty/surcharge through special concessions, which are announced every year.

Women were found to be more involved in the farming aspect of the rice value chain, especially in transplanting paddy rice from the nursery to the fields, harvesting and paddy drying. Women are also indirectly involved in all functions by being engaged in food preparation services. It was noted that children help their family in farming labour and other value chain actors.

In general, Pakistan's rice farming is constrained by low yields, a narrow varietal base (weak Research and Development), declining water availability and uneven monsoon rains, and an increased risk of disease and pest infestations. Switching to high-value varieties and an increase in yield would strengthen production efficiency in the rice value chain (and it is the preferred growth option for the rice value chain).

The current milling recovery is lower than the standard, and improved processing would help to increase it. The current average recovery of the super kernel variety is 51.3 per cent from paddy, which could be increased to 60 per cent by upgrading processing machinery and improving cultural practices - including the appropriate timing of harvesting. The additional recovery of 9 per cent would help enhance farming efficiency and generate additional jobs both on and off the farm. The adoption of improved technology is contingent upon the farmers' knowledge about improved practices in the pre-harvest stages. Their skills in terms of the optimal time for rice sowing, harvesting and handling are crucial if there is to be a better recovery in rice processing.

Most exporters and processing enterprises have acquired ISO certification, but there is a growing demand for traceability and farm level certification. This will require increasing relationships between the value chain actors and introducing certification that covers the entire quality management system. Certification may help in increasing efficiency in processing and contribute towards a higher rice recovery.

6.4.3 Islamic Republic of Iran

Rice is the major agriculture consumption commodity in Iran after wheat. Until the 1960s, Iran was a rice-exporting country. However, it then became one of the main rice-importing countries due to its increase in oil revenues and a gradual change in the consumption pattern of people in city areas. During the period under review, the level of rice imports, despite regular ups and downs, grew at an average annual rate of 5 per cent. In 2010, 99 per cent of rice imports were from India and Pakistan. The end market for the rice value chain at present is therefore only the domestic market.

There are two significant channels within the rice value chain, and the governance structure is similar to that of the wheat value chain. The domestic market channel includes farmers, local aggregators, traders, wholesaler and retailers. Consumers mostly set the price and quality standards, but the sales prices established by the Government for imported rice affect the prices. The channel primarily exhibits a market-based structure. Another major channel is the government procurement channel, which demonstrates a captive power structure. It consists of two separate segments. The first is the rice-importing channel, whereby the Government of Iran purchases rice from India and Pakistan; and the second is used by the Government to procure rice from the local farmers for distribution. Here again, the rice is bought at guaranteed prices and sold in the market or rationed to processing mills.

In rice cultivation on the farms, the women are tasked with transplanting, weeding and harvesting the rice. Their contribution to rice production is therefore fairly significant – but their involvement along the

rest of the value chain is not substantial. There are women who work as secretaries and accountants with rice importers, and as input sales personnel. But there is no evidence to suggest that women are engaged in the processing or distribution of rice. Children are involved in packaging duties in rice processing factories,

The Government has a number of favourable policies to increase and promote domestic rice production. In recent years, it has provided farmers and producers with seeds (with considerable subsidies), so that they might increase their cultivated areas or acreage of high-yield types of rice. Other support policies have included offering low-interest rate loans for the purchase of farming machinery; providing production loans with low-interest rates; exempting farmers from taxes; and applying low water and energy charges. However, the Government's control and periodic restrictions on rice imports to help farmers obtain a good price have increased the price of rice in general, and therefore rice is further losing its competitiveness.

6.5 Tomato value chain

Section summary: *Although Afghan fresh tomatoes are price-competitive to Pakistani tomatoes during the harvesting season, Afghanistan is obliged to import tomatoes for the rest of the year on account of its lack of cold storage facilities. The import-export of fresh tomatoes between the two countries is more or less balanced, with Pakistan exporting to Afghanistan a quantity that is 1.5 times larger than the other way round. Locally produced tomato paste is increasingly losing price competitiveness against that of Iran. Iran has reached price parity with Afghanistan in both fresh tomatoes and tomato paste. Policy-makers might envisage promoting contract farming for tomato processors to enable them to source high-quality fresh tomatoes to remain cost-effective. Iran, however, is ranked seventh among the world's tomato-producing countries and its production is constantly on the rise. The competition for Afghan producers will be tough. However, this challenge could pave the way for growth, accompanied by job creation, if successful.*

The current competitiveness situation with respect to tomatoes in Afghanistan, Pakistan and Iran was described in chapter 4. This section explains the value chain dynamics that have been in play alongside the exchange rate/price issues, resulting in the current status. The situation in Afghanistan is described in more detail, and only a synopsis is given for Pakistan and Iran (details are in the main report). Value chain maps have been used to explain the dynamics.

6.5.1 Afghanistan

Figure 6.14 shows the Afghanistan grapes/raisins value chain map. The key issues emerging from this map are discussed below.

Figure 6.19. Tomato value chain map in Afghanistan

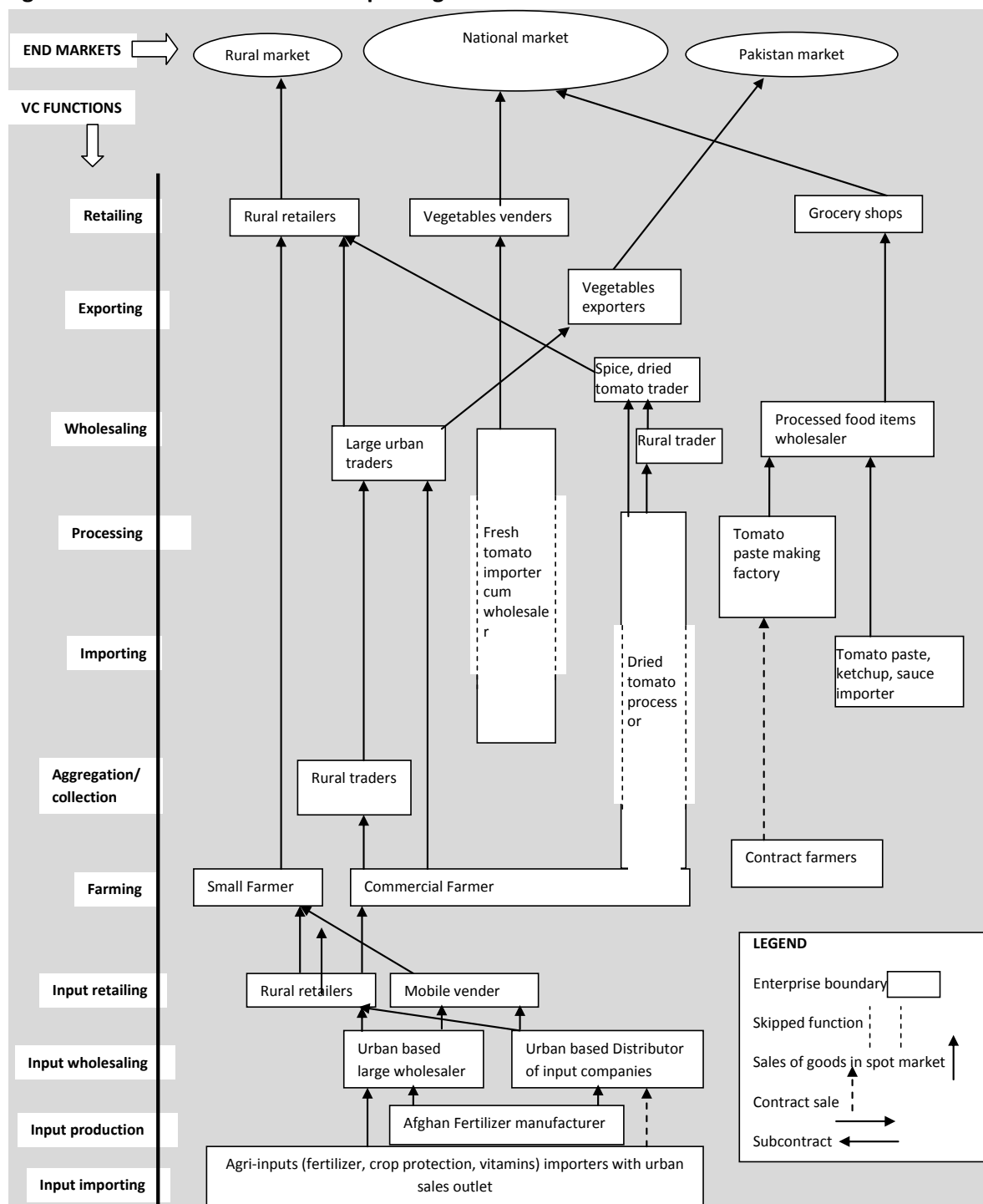
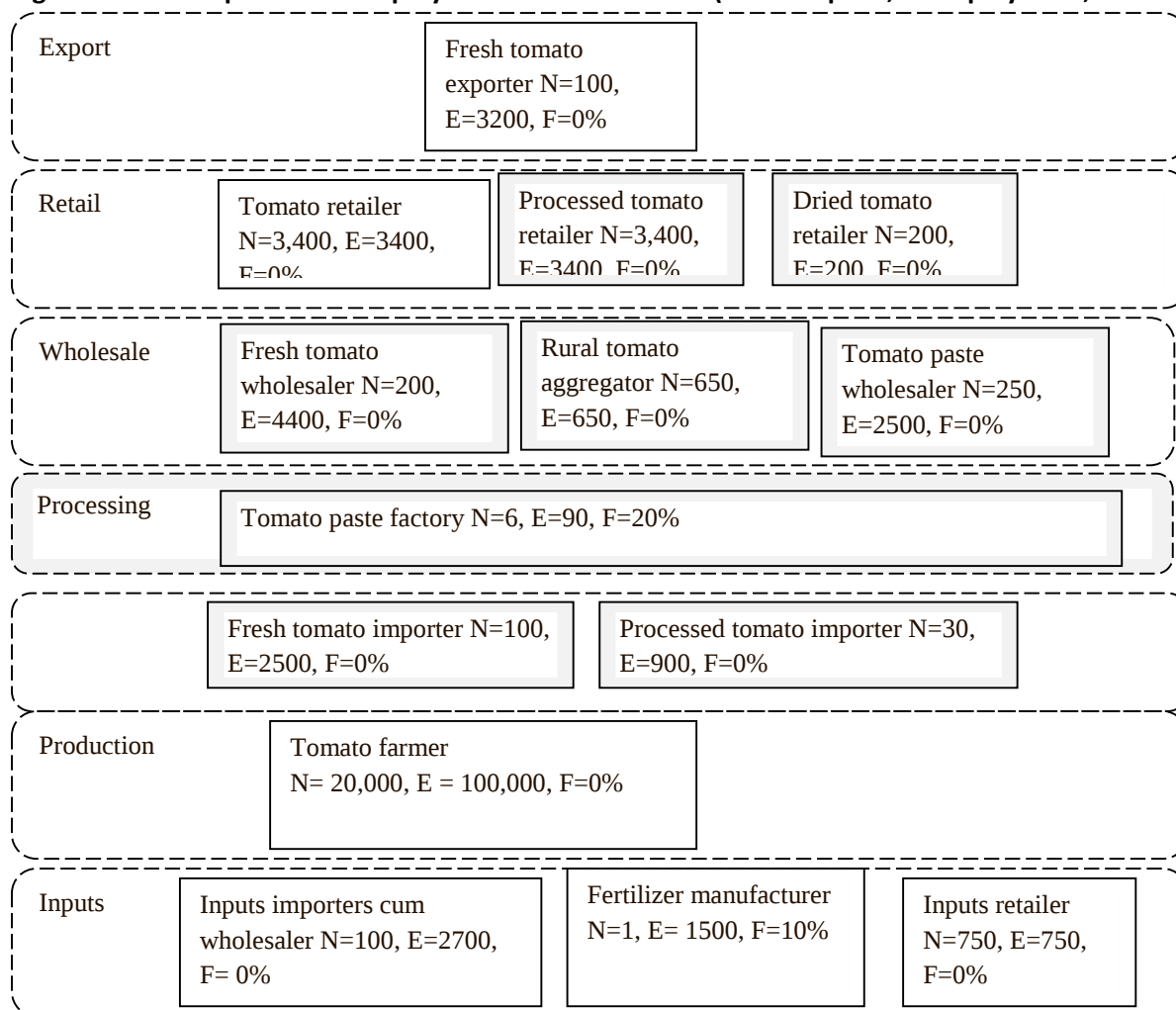


Figure 6.20. Enterprises and employment in the subsector (N= enterprise, E=Employment, F=Female)

6.5.1.1 End markets

At present, Afghan tomatoes are price-competitive compared to Pakistani tomatoes, especially when they are exported to Pakistan during the harvesting season. However, due to its lack of cold storage facilities, Afghanistan has to import fresh tomatoes for the rest of the year - mostly from Pakistan where tomatoes have two crops a year. Nonetheless, as seen in chapter 4, Iranian tomatoes have almost reached price parity with Afghan tomatoes and Afghanistan is thus increasingly importing fresh tomatoes from Iran. The end market for fresh Afghan tomatoes is therefore the domestic and Pakistan market. There are around six tomato paste processing companies in Afghanistan, all of which are in the northern region, except one located in Nangarhar. Locally-produced tomato pastes cannot meet the local demand and are increasingly losing price competitiveness against those of Iran, which are imported as a consequence. The end market for tomato pastes is thus the domestic market only. One important aspect is the price difference between domestic and imported tomato pastes. Although the domestically produced tomato pastes are cheaper

at the moment, imported ones dominate the market. With increasing price competitiveness, Iranian tomato pastes are likely to pose a greater threat to domestic production in the near future.

6.5.1.2 Channels and governance structure

The value chain is comprised of both fresh tomatoes (imported and exported) and processed tomatoes (local and imported). A differentiation is therefore made between fresh tomatoes and processed tomatoes in the tomato value chain.

Fresh tomato channels

1. Localized fresh tomato channel. This channel is comprised of small farmers cultivating a limited amount of different vegetables on small plots of land, mainly for home consumption. Occasionally, they sell to the retailers at the local market.

2. National fresh tomato market. This channel includes the largest volume of fresh tomatoes traded all over Afghanistan through different intermediaries. It also includes the commercial tomato farmers.

3. Fresh tomato export channel. This channel is an extension of the second channel, with exporters exporting Afghan tomatoes to Pakistan.

4. Imported fresh tomato channel. Fresh tomatoes in Afghanistan are mainly exported from Pakistan and Iran. They reach the local market through vegetable vendors.

All the channels for fresh tomatoes consist of a market-based relationship. A significant amount of fresh tomatoes are grown in the northern region, in the central region (Kabul) and in the eastern region. There is a surplus of fresh tomatoes at harvest time, and these are exported to Pakistan. Transactions for local consumption and exports usually take place in the spot market, and there is little or no exchange of information or knowledge sharing between buyers and sellers.

Processed tomato channels

5. Afghan dried tomato channel. This channel deals with the dried tomatoes processed in Afghanistan. The principal consumers of this type of product come from the rural population - and interestingly, spice traders are the main intermediaries in this channel. It seems to be dying out because of the availability of fresh tomatoes almost year-round (local and imported) and tomato pastes.

6. Local tomato paste channel. This channel includes the tomato paste making factories in Afghanistan, and usually covers the tomato growers contracted to the factories. However, this product does not follow the fresh tomatoes channel and hence includes intermediaries who deal with processed food items.

7. Imported processed tomato products channel. This channel includes all the imported processed tomato items. These products reach the end markets through the same intermediaries involved in the local tomato paste channel.

The dried tomato channel, a drying one, also consists of a market-based relationship. The local tomato paste channel has both a market-based and relational power structure. Although most of the processing companies procure fresh tomatoes from the open market (market-based relationship), one large processing company based in Mazar has established a large network of 800 farmers to supply its raw materials. The mutual dependence (the farmers grow the variety of tomato distributed by the processing companies and also sell to the factory; the processing company obtains an optimum quality product and can run its plant year round) has built a relational power structure in the channel. The imported processed tomato products channel is also market-based.

6.5.1.3 Farm level production status

Tomatoes are grown sparsely across the country. The major tomato growing areas in Afghanistan are: Faryab and Jowzjan in north Balkh; north-east Takhar; Farah and Herat in west Badghis; south Khost; Nuristan in east Nangarhar; and Kandahar and Uruzgan in the south-east.⁷⁹ Tomatoes are more of a commercial crop in the north, as well as in and around Kabul province. In general, tomatoes are grown in the open field, but there are some greenhouses established in the eastern region. There are input companies importing tomato seeds and selling through their distribution system to farmers. Overall, tomatoes are a profitable crop for all farmers, but their income depends on the usage of inputs and their connection to the end market.

Box 6.9. Variation of input usage and farm business models in Afghanistan

Three cases from three different locations provide a comparative picture. In the first case, a farmer located in the Estalif district of Kabul bought saplings (5000 pieces) instead of seeds. He also used the required amount of fertilizers. Overall, his production costs became considerably higher. However, he still made a good profit margin as his yield was good - 6,300 kg per jerib. In the second case, the farmer located in Pulikhumri (Baghlan district) grew tomatoes on one jerib of land. He used poor quality seeds and his yield was the lowest (only 4,760 kg/jerib), as was his unit selling price. He reduced his production costs by compromising on seed quality as well as the fertilizer dosage; his overall revenue decreased, but he still made a profit, which shows the good profitability of tomato farming. The third case was special as the farmer worked under a contract farming system with a tomato paste making factory, which distributed improved seeds (imported from the Netherlands) and financed the farmers to buy inputs. The farmer was not obliged to sell his whole harvest to the factory and could sell to the market at the beginning of the harvesting season - and towards the end of the season to secure a higher price. During the peak season, he sold his tomatoes to the factory as the price they offered at that stage was good, and he did not have to transport them to the market and pay other ancillary costs (market tax,

⁷⁹ http://afghanag.ucdavis.edu/a_horticulture/row-crops/tomato/tomatoes

commission to commissioning agents, etc.). By complying with this model, his yield was the highest (6,825 kg/gerib) among the three farmers, as was his net profit margin.

Key message: An appropriate use of inputs through the contract farming model yields a higher profit

6.5.1.4 Cost breakdown along the value chain

Pakistan does not process tomato paste and its cost breakdown is thus analysed for one ton of fresh tomatoes. For its part, Afghanistan has a few tomato paste making factories and its cost breakdown is analysed for one ton of tomato paste (wholesale price in US dollars). It is noted that 2.3 kg fresh tomatoes are required to produce one can (800 grams) of tomato paste.

As seen in chapter 4, Afghanistan has lost price competitiveness against Iran and this may be attributed to three major cost elements - packing materials, fertilizers and irrigation. Packing materials (the cans) are imported from Iran.⁸⁰ The value of cans for packing one ton of tomato paste was almost 40 per cent of the wholesale price in 2007, and this percentage remained the same in 2012 (although the absolute value increased).

Figure 6.21. Cost elements along the Afghan tomato VC to produce one ton of tomato paste in 2012 and 2007 (in USD)

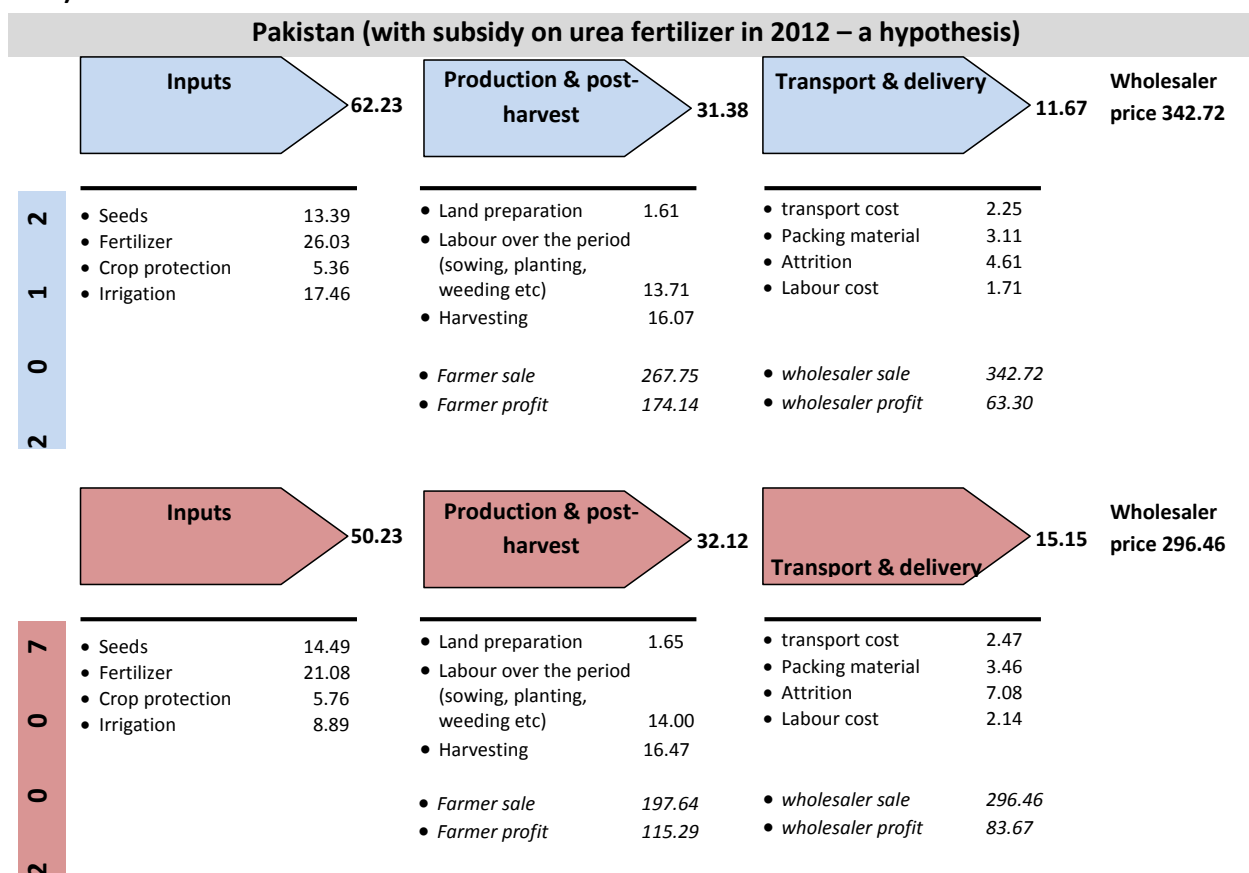
Afghanistan						
2012	Inputs		111.18	Production & post-harvest		67.79
	Processing, transport & delivery		414.91	Processor price		844.96
	• Seeds	2.71	• Land preparation	14.46	• Processing cost	50.01
	• Fertilizer	52.43	• Labour over the period (sowing, planting, weeding etc)	13.11	• Packing material	358.61
	• Crop protection	5.42	• Cleaning, sorting packing	8.14	• Distribution cost	6.29
2007	• Irrigation	50.62	• Transport to processing plant	32.09		
			• Farmer sale	352.52	• processor sale	844.95
			• Farmer profit	173.55	• processor profit	77.52
			*2.3 kg makes 800 gm canned tomatoes			
2007	Inputs		61.64	Production & post-harvest		47.38
	Processing, transport & delivery		366.90	Processor price		780.00
	• Seeds	1.84	• Land preparation	8.74	• Processing cost	40.00
	• Fertilizer	25.76	• Labour over the period (sowing, planting, weeding etc)	6.44	• Packing material	322.50
	• Crop protection	3.68	• Cleaning, sorting packing	6.90	• Distribution cost	4.40
2007	• Irrigation	30.36	• Transport to processing plant	25.30		
			• Farmer sale	276.00	• processor sale	780.00
			• Farmer profit	166.98	• processor profit	137.10
			*2.3 kg makes 800 gm canned tomatoes			

⁸⁰ Very recently, one paste manufacturer installed a packaging plant, after long having planned to do so. It was a costly enterprise. He invested around 1 million USD for this - and not everyone can afford to invest such an amount.

Table 6.15: Inputs cost as percentage of total production cost – Afghan fresh tomatoes

Year	Fertilizer %	Irrigation %	Labour %
2012	29	28	20
2007	24	28	20

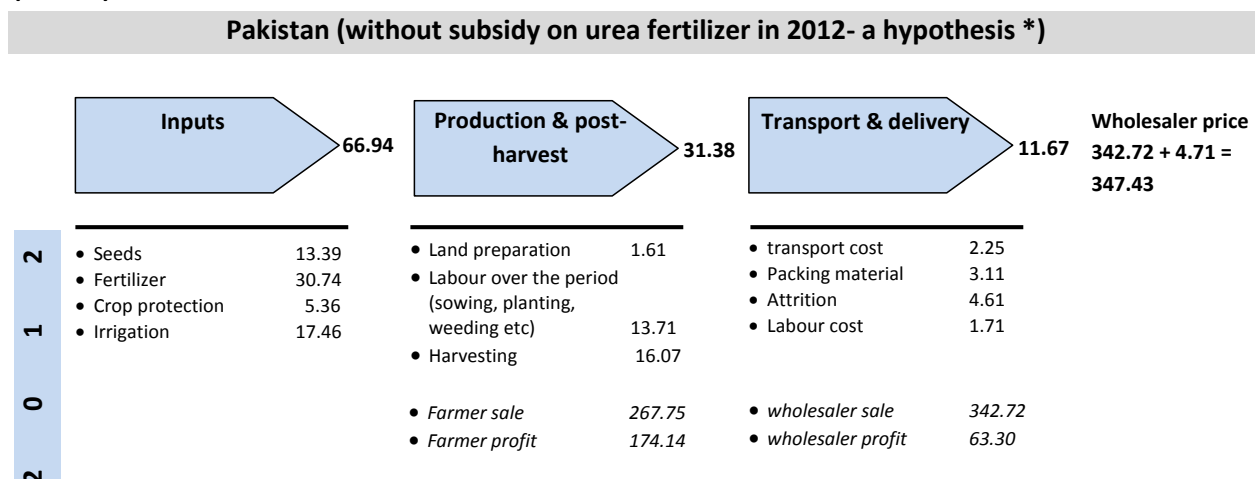
Fertilizer is the major contributor in the overall production costs, accounting for an increase of 5 percentage points in the 2007-12 period - whereas the share of other cost elements remained the same.

Figure 6.22. Cost breakdown to produce one ton of fresh tomatoes in Pakistan in 2012 and 2007 (in USD)**Table 6.16: Inputs cost as percentage of total production cost – Pakistani fresh tomatoes**

Year	Fertilizer %	Irrigation %	Labour %
2012	28	19	31.39
2007	26	11	39

Compared to Afghanistan's 5 per cent increase in the production cost of fertilizer during the 2007-12 period, Pakistan only experienced a 2 per cent rise. However, its irrigation costs soared during this time.

Figure 6.23. Cost breakdown to produce one ton of fresh tomatoes in Pakistan without subsidy in 2012 (in USD)



* The cost increase due to a hypothetical withdrawal of a subsidy is added to the final wholesale price, keeping the profit margins the same at farm level.

The above results indicate that the Pakistani subsidies have no impact on the relative price competitiveness of its tomato sector vis-à-vis that of Afghanistan. However, it is impossible to compare the cost diagrams of Afghanistan and Pakistan because that of Afghanistan shows processed tomatoes while that of Pakistan refers to fresh tomatoes. Nonetheless, extracting the fresh tomato wholesale price from Afghanistan's cost diagram shows that it is approximately USD 153 per ton, which is much lower than that of Pakistan. Although withdrawing the subsidy in Pakistan would only increase the price of fresh tomatoes marginally, the Pakistani tomato, which is already non-competitive, would become even more so.

As also described in chapter 4, Pakistani tomatoes have further lost their competitiveness against both Afghan and Iranian tomatoes. The major cost elements that have contributed to this eroded competitiveness are irrigation and fertilizer expenses. Farmers' increased profits have also added to the overall price increase in Pakistan.

6.5.1.5 Support services market

Transacted services

The key service providers in the value chain are the clearing and forwarding agents, the Chambers of Commerce and Industry, and commission agents in the market place.

Generic services

Packaging, transportation and finance are the major generic services supporting the value chain.

Public benefit/free services

IDEA-New, a USAID-funded project, is one such organization. This project is very active in the eastern provinces of Nangarhar, Laghman, Kunar and Nooristan. IDEA-New helps farmers by providing them with improved tomato seeds and fertilizers, and by sharing some leased costs for their land. This organization also distributes seed processing machines to some seed processors, who then provide farmers with improved seeds. This organization has also helped establish kitchen gardens for women and trained them in vegetable cultivation. The Kunduz Rehabilitation Agency is working with the CARD-F project (funded by USAID) to establish 300 greenhouses for tomatoes in the Behsood district of Nangarhar by 2015. Until now, 106 units have been built. Each greenhouse costs US\$ 5,485, of which the farmer has to bear 40 per cent of the expenses and to pay in advance. In addition, DAIL provides extension services to the farmers.

Embedded services

As in other value chains, the input retailers provide embedded information services to the farmers.

6.5.1.6 Cross-cutting issues

Women family members in Kabul help their male counterparts during the sorting and packing of tomatoes before taking them to the market. In the northern part of the country, they also help during planting and weeding. In addition, women work as wage earners in the tomato paste-making factory in the north. Women's involvement in this kind of work is very much region-based. For example, no women were found working in the factories based in Jalalabad in Nangarhar.

In Kabul, children are hired for planting tomatoes, as well as during harvesting, and are paid 200 Afs/day. In Mazar, there are a few wooden crate-making factories, where some children work using nails and hammers with their bare hands. These crates are used for carrying tomatoes as well as grapes.

6.5.1.7 Constraints and opportunities

When adopting the methodology of triangulation to survey the competitiveness situation in the subsector with relation to value chain dynamics, it is possible to identify a number of key constraints – some of which are interlinked.

Constraints

1. Unavailability of fresh tomatoes year round for processing at a reasonable price

Until now, Afghan fresh tomatoes have been price-competitive against Pakistani and Iranian tomatoes (although Iranian tomatoes were almost at price parity in 2012). However, a lack of cold storage facilities forces Afghanistan to import fresh tomatoes when the local supply finishes. There are several tomato paste-making factories that have their own cold storage facilities, but their capacity is limited and they

can only cater to the processing demand for three to four months. As it is not cost-effective to import fresh tomatoes and run the plants, almost all of them remain closed for the rest of the year.

2. Eroded price competitiveness and the poor quality of processed tomato paste

Afghan consumers have a general preference for Iranian tomato paste because of its superior quality and packaging. What is more, Iranian tomato paste has gained further price competitiveness – it was almost at parity with Afghan tomato paste in 2012. When taking both these factors into account, it seems likely that Afghan tomato paste will continue to lose its market share compared to Iranian tomato paste. To remain competitive against Iranian tomato paste, Afghan processing companies compromised more on quality to offer a lower price - and they made no efforts to improve the quality. The lack of backward and support services, such as a packaging factory and machinery troubleshooters, also put Afghan processors at a disadvantage.

3. Farmers' poor financial management

Although tomato farming is profitable, not all farmers can maximize it due to their poor financial management. Compromising the quality and use of inputs, as well as buying inputs on credit at a higher price, result in a low yield - and consequently a low income.

Opportunities. There are nevertheless opportunities as well as constraints.

1. Large domestic market for processed tomatoes

Afghanistan has a large market for tomato paste and yet Iranian brands have the major market share. By improving the product quality, Afghan tomato paste could gradually replace the imports.

3. Contract farming to produce appropriate quality tomatoes for processing

While all the tomato paste-making factories struggle to run year-round, one large factory has paved the way and given an example of how to become sustainable. By adopting contract farming, it is possible to guarantee the supply of enough fresh tomatoes of the required variety.

Box 6.10. Guaranteed supply and improved technology keep the paste-making factory running year-round

Ahmad Zia is the market leader of local tomato paste in the North region. His factory is located in Mazar and he runs his factory year-round (unlike others). He procures fresh tomatoes through two major channels – 80 per cent of his requirements come from the farmers, and the rest from the market. He distributes improved tomato seeds among the farmers, which he imports from the Netherlands. This variety is special and suitable for making tomato paste (there is less water in these tomatoes). He also provides finance to the farmers to buy agri-inputs. Currently, he has around 800 farmers in Balkh province who work under this arrangement. The farmers are not obliged to sell all their produce to the factory, but they usually do so during most of the harvesting season as it pays a good price. They only sell to the market at the start and at the end of the harvest, when the fresh tomato price is high.

Ahmad has established a number of large tankers for preserving the tomatoes in the factory. Hence, the availability of raw materials is not a problem for him. During the harvesting season, he buys tomatoes and turns them into a liquid form, which is then preserved in tankers to be used throughout the year. This is a good example of a contract farming model, where both the parties are in a win-win situation. Ahmad has a reliable source of tomatoes of the right variety and quality, while the farmers not only obtain improved quality seeds but also finance for buying other agri-inputs and a guaranteed market to sell their produce.

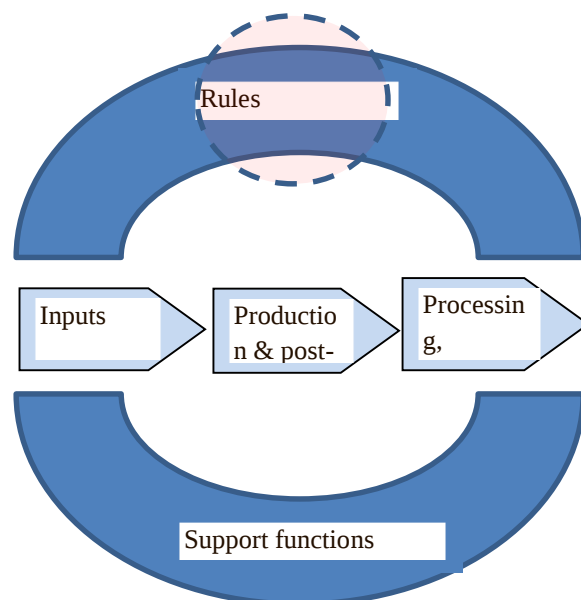
Key message: Contract growing is a win-win situation for both the processor and the farmers. Through this arrangement, the processor can ensure he receives the right variety and product. For their part, the farmers obtain an improved variety of seeds, credit facilities to buy inputs, and a buyer to buy back their produce.

6.5.1.8 Proposed interventions

1. Facilitate policy review to check economic viability to adjust the production cost.

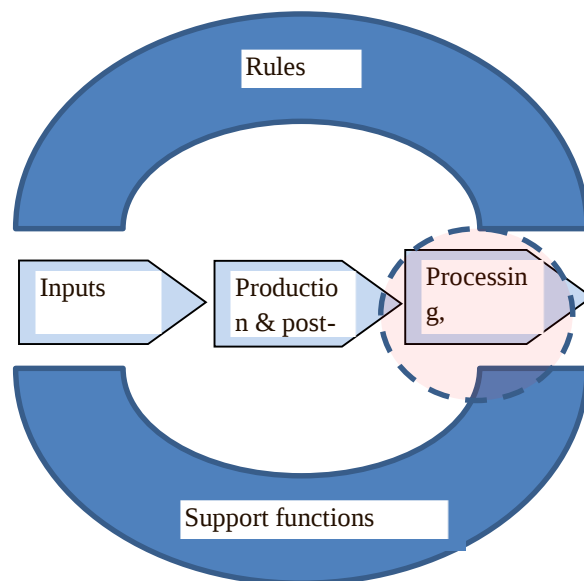
Packaging materials (cans) contributed the most to the increasing price of tomato paste in Afghanistan, followed closely by the rise in the price of fertilizers. In the case of fresh tomatoes, the increasing fertilizer prices were the most responsible for the eroding price competitiveness. This trend is alarming because Iran has reached price parity with Afghanistan in both fresh tomatoes and tomato paste. A policy review to examine the economic viability of providing subsidies for fertilizers for tomato production might be considered –

although this will not be feasible in the short term given the Afghan Government's limited fiscal space .



2. Promote contract farming for tomato processors to enable them to source fresh tomatoes, of the desired quantity and quality, so that they may remain cost-effective.

The contract farming model has proven effective in generating a win-win situation for both buyers and suppliers. By adopting contract farming, the processor could obtain the optimum quality and quantity of fresh tomatoes for processing into tomato paste. The farmer would also have a guaranteed buyer (with an agreed price) and supports during the production period. Nonetheless, the price parity with Iranian tomato paste, added to the fact that the latter is of higher quality, will make the competition tough for the Afghan tomato producers and processors. If successful, however, it could pave the way for growth accompanied by job creation.



6.5.1.9 Job implications

Table 6.17: Job creation potential in the tomato VC through contract farming promotion among tomato paste processors

<i>Elements of jobs creation potential</i>	<i>Estimate (new working days)</i>
Additional 4,000 farm households linked to processing companies – increase in working days in harvesting and post-harvesting due to higher yield of 40 per cent (or 8,000 tons more production, one working day can harvest 0.20 tons).	40,000 working days
Five processors have a greater supply and create more employment	76,542 working days

Around **116,000 new working days** could therefore be created by helping five processing companies to establish a contract growing system.

6.5.2 Pakistan

Tomatoes are the third major vegetable crop after potatoes and onions in Pakistan. There have not been any gains in tomato yields during the past decade, despite the fact that the use of hybrid seeds has increased significantly. Tomatoes are a widely grown crop in Pakistan throughout the year - according to the climatic conditions. The peak period of supplies to the market is from the beginning of May until the

end of August. Supplies are short during the rest of the year and local supplies are often supplemented by imports from Afghanistan, Iran and India.

Pakistan's total tomato exports have followed an erratic trend – contrary to its tomato imports, which have exponentially increased during the past ten years. Pakistan's imports from India have also substantially increased during the same period - specifically more sharply from 2008 onwards. Pakistan exports tomatoes to Afghanistan and Iran, and also imports the same from both these countries. Trade among these three countries is driven by seasonal shortages along with price competitiveness in the same season and therefore varies from year to year. However, price competitiveness has implications in the trade patterns described in chapter 4, which demonstrated Pakistan's eroding competitiveness and ensuing increase in imports. Traders from Afghanistan mostly trade tomatoes from the Peshawar market. There are occasional exports from the Quetta market to Iran, in event of tomato shortages in that country. The end market for fresh tomatoes therefore leads to both the domestic and export market.

Pakistan is not competitive in producing tomato paste and imports the product to meet local demand. Processed tomato importers are mostly located in major cities such as Karachi and Lahore. They often work as agents and import on the order of their clients. Most processing units work with these importers to source their raw material. With the exception of a few brands, tomato paste and ketchup are imported in bulk and then packed by the processors. Paste and ketchup in bulk are imported from many different countries including China, India, the Netherlands and Turkey. Imports of paste mainly come from Iran in the form of consumer size packaging via Quetta.

The tomato value chain consists of several marketing channels, of which three are major ones. These include the domestic fresh tomato channel; the fresh tomato export and import channel; and the locally produced and imported processed tomato channel.

Farmers are increasingly using hybrid seeds imported by seed companies from various countries including the United States, the Netherlands, Japan, Spain, Italy and China. Tomato cultivation seasons vary from area to area. Two crops are grown in general - one in the Rabi season and another in the Kharif season. For the Rabi season crop, the nursery is raised in October and the transplanting is carried out in November and December. This crop is ready for harvesting in May and June, with variations based on altitude. The crop in the Kharif season has its nursery raised in July, and the crop is ready for harvesting in November and December. The bulk of the crop arrives on the market from May to August, while supplies during the rest of the year are slightly lower.

Women's involvement is primarily restricted to production-related activities. They are also engaged in the pre- and post-production handling, especially in the transplanting, picking and collection of tomatoes in the Punjab province. There is a limited involvement of women in other provinces due to cultural barriers. The prevalence of child labour is negligible in the value chains under study. When evidence was found of children working on farms, they were assisting their family elders and unpaid.

6.5.3 Islamic Republic of Iran

Iran is ranked seventh among the tomato-producing countries in the world. Its production has been constantly on the rise, thanks to both an increase in its area coverage and yield. Iran only occasionally imports fresh tomatoes due to periodic shortages, but mainly acts as an exporter of both fresh and processed tomatoes. The end market of the value chain therefore leads mostly to both the domestic and export market.

The value chain consists of three major channels: the domestic fresh tomato market, which is very much market-based; the fresh tomato export market channel, which is both market-based and of a modular type; and the processed tomato channel, which exhibits both a market-based and relational power structure.

Most tomato farmers use imported hybrid seeds, which have a superior yield. Tomatoes in Iran are harvested for an extended period, making fresh tomatoes available for a long period. Harvesting starts in September and continues until December.

Iran is clearly in a competitive position in the tomato sector. Large processing firms and exporters have contributed to the industry's growth. However, obtaining good quality fresh tomatoes are still a major concern for many such firms. Given that the price of fresh tomatoes varies throughout the harvesting period (the price is usually higher at the beginning and end of the harvest), the farmers usually sell the lower quality crops to processing factories. Consequently, the price paid by the processing companies is lower than the price paid by other consumers - sometimes less than half. As farmers have the perception that processing companies do not pay as well, they do not feel encouraged to sell high quality tomatoes to them. Promoting contract growing could address this problem.

6.6 Potato value chain

Section summary: *The eroding price competitiveness of Afghan potatoes may be attributed to the unfavourable exchange rates vis-à-vis its regional trade partners, the unavailability of high-quality seeds, the lack of appropriate cold storage facilities and farmers' poor access to finance. Afghanistan's potato yield is the lowest among all the three countries under review, and efforts might be envisaged to promote higher quality seeds and to educate farmers on their use, although it is a challenge to regain the lost price competitiveness. Pakistan produces an exportable surplus of potatoes. Unlike Afghanistan, it has a cold storage infrastructure that caters to the needs of the agricultural sector. It also has a large number of potato-processing companies that procure potatoes from the local market. Although Iran is a large producer of potatoes, its potato production is inadequate to meet local consumption demands and its exports are erratic. Nonetheless, thanks to its improving price competitiveness due to the favourable exchange rate, it is starting to increase exports to neighbouring countries – especially in the form of potato crisps.*

The current competitiveness situation with respect to potatoes in Afghanistan, Pakistan and Iran was described in chapter 4. This section explains the value chain dynamics that have been in play alongside the exchange rate/price issues, resulting in the current status. The situation in Afghanistan is described in more detail, and only a synopsis is given for Pakistan and Iran (details are in the main report). Value chain maps have been used to explain the dynamics.

6.6.1 Afghanistan

Figure 6.24 shows the Afghanistan potato value chain map. The key issues emerging from this map are discussed below.

Figure 6.24. Potato value chain map of Afghanistan

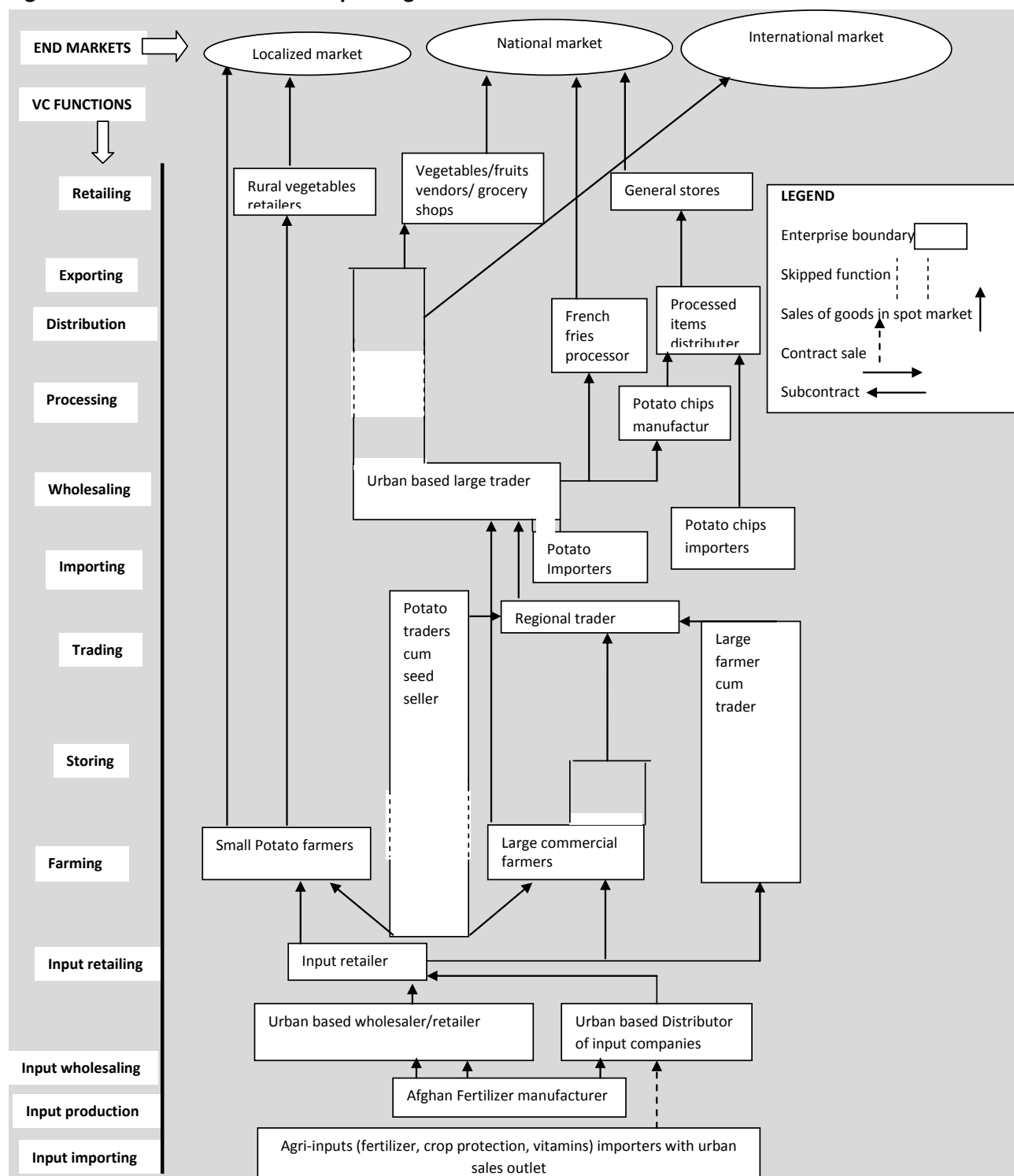
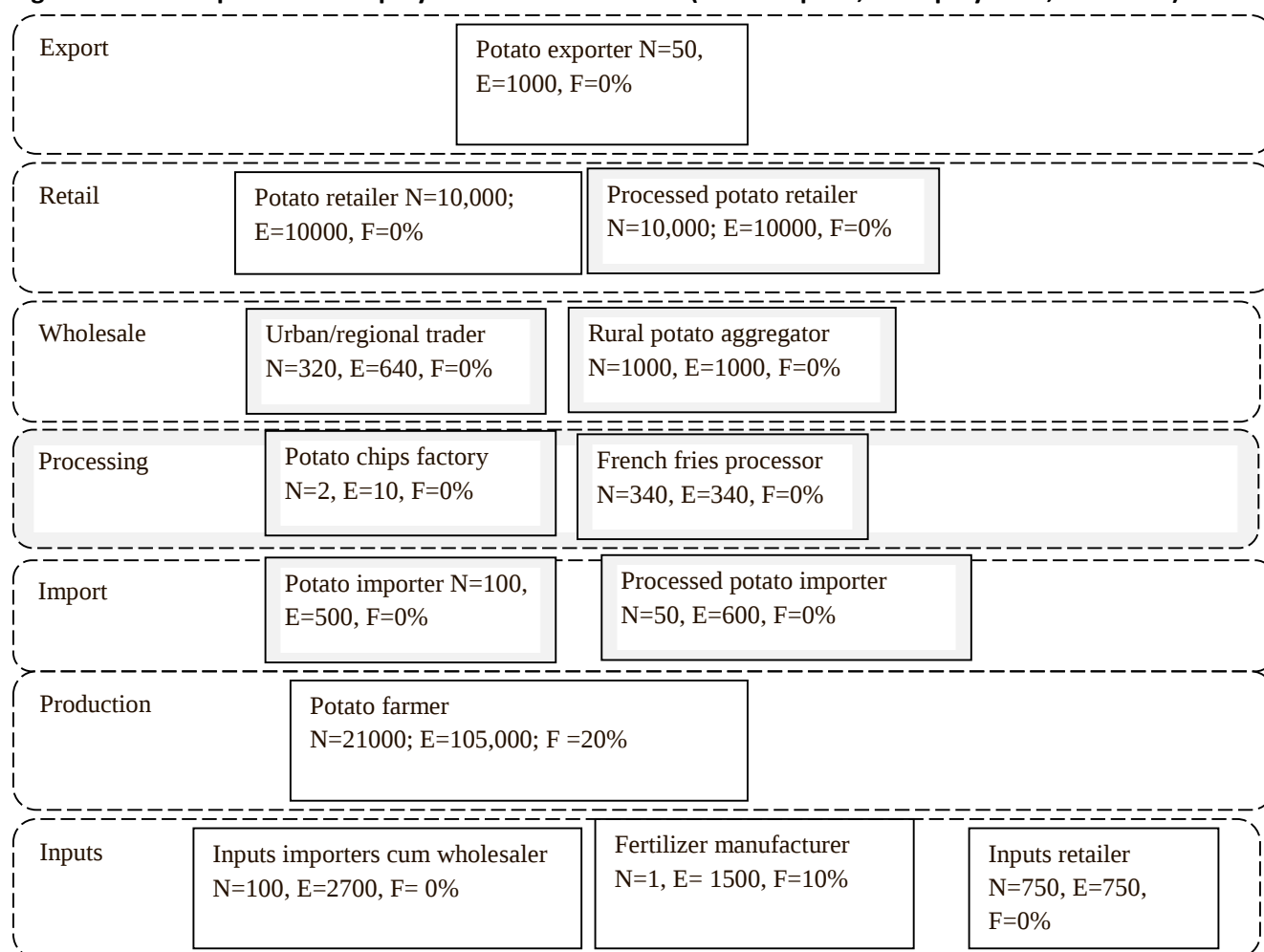


Figure 6.25. Enterprises and employment in the subsector (N= enterprise, E=Employment, F=Female)

6.6.1.1 End markets

Bamyan province is the major producer of potatoes in Afghanistan, where potatoes are harvested from September to October and available until late January. Customers no longer appreciate the stored potatoes in the available cold stores after this date, as they become sweet. However, potatoes are harvested in Pakistan in January and are imported to Afghanistan in large quantities to meet the local demand. This trade continues until June as Pakistan has better cold storage facilities to be able to supply potatoes year-round. But some parts of Afghanistan (northern and eastern regions) start harvesting potatoes at that time, and Pakistan potatoes then start to diminish in the market.

During the harvest season, Afghanistan exports a significant volume of potatoes to Pakistan. Some of the large traders based in Mazar export to Uzbekistan, and those based in Kabul export to Pakistan. In fact, the exports to Uzbekistan are actually a re-export of Pakistani potatoes, once the local potatoes have finished in the market. Afghanistan and Uzbekistan harvest potatoes at the same time of the year.

Uzbekistan imports during the rest of the year when they are short of potatoes. Moreover, Kabul-based large traders export potatoes to Peshawar, Pakistan, during the harvesting season, and these exports are on the increase. The processing of potatoes in Afghanistan is limited to French-fried potatoes and potato crisps to cater to the local market. Overall, the end market for the potato value chain leads to the domestic - and partly export - market.

6.6.1.2 Channels and governance structure

The potato value chain in Afghanistan has three major channels:

1. The rural or localized channel. This channel refers to those potatoes that are produced and consumed locally, and which do not reach the national market. Farmers who live in remote areas or have poor road communications to urban centres (such as some places in the Waras district of Bamyan), or small farmers who mostly grow for self-consumption, belong to this channel.

2. The national market channel. As potatoes grow in some specific areas in Afghanistan - such as Bamyan (the major producer), followed by the Northern provinces and eastern provinces (Nanagarhar), as well as some areas in and around Kabul province and in the southern region (for instance, Ghazni) - there are significant flows of local potatoes around the country. These potatoes reach different markets through a number of intermediaries. However, the same intermediaries who trade Afghan potatoes also deal with imported potatoes (Pakistan) and hence the import channel merges with this channel. The export channel again emerges from this channel.

3. The processed potato channel. This channel is comparatively much smaller than the others in terms of volume. There are primary-level processing plants, making French fried potatoes, and also high-end processing plants, producing potato crisps. While French fried potatoes have a very short channel in length and are sold directly to the consumers by the processors, potato crisps follow the processed items distribution channel. However, as this distribution channel also distributes imported potato crisps, both local and imported processed potatoes are considered to be in the same channel.

In general, the overall sector consists of market-based relationships among the various actors. There are only two small companies processing potatoes with limited capacity, and these have no influence on the market in terms of quality and variety. Imports, exports and re-exports are very much transaction-based and less interaction-based (information and knowledge share), which gives the industry a market-based governance structure.

6.6.1.3 Farm-level production status

There are three major types of farmers. First, there are the small farmers who grow potatoes on a small piece of land and sell to the consumer directly or to the retailer in the local market. In general, their yield is limited as they cannot afford to apply the required amount of fertilizers or apply inferior quality ones. Many farmers who belong to this category in Kabul province are shifting from potato production to grapes or other fruit orchards, as the production cost for potatoes has risen but the output price has not increased in proportion. Second, there are comparatively large-scale farmers with a bigger plot of land,

who grow potatoes commercially and sell to either rural aggregators or large regional traders. The majority of this category of farmers live in Bamyan province - particularly in the areas of Bamyan Centre and Yakawlang. Third, there are larger commercial farmers, common in Bamyan province, who grow potatoes on a large scale and also become potato traders during the harvest season. They buy from other farmers and rural aggregators and sell to regional large traders in other major cities.

Four potato seed varieties are mainly used in Bamyan (Sabz gul, Safeed gul, Samadi and Casium), while two more varieties - namely a red and white variety - were found in Kabul. Farmers have a preference for high yielding- varieties, but they are not always available and they are obliged to turn to other varieties. Around 35 per cent of all potato farmers use seeds from the previous year, while another 46 per cent of farmers buy seeds from neighbouring farmers - who again store seeds from the previous harvest. The continuous use of the same seeds explains the low yield in Afghanistan (figure 4.50).

Potato farming requires more fertilizers than many other crops. Due to the high price of fertilizers, many farmers - mostly those belonging to the first category, i.e. small farmers - have reduced the amount of fertilizers they use or started using cheaper ones, which are less effective. Around 32 per cent of all farmers were satisfied and claimed that they had had an optimum yield, while the remainder did not. The primary reasons for this low yield was poor quality seeds, the use of less or poor quality fertilizers, and the lack of irrigation.

6.6.1.4 Cost elements along the value chain

The eroded competitiveness of Afghan potatoes can be attributed to the rising cost of three major elements - fertilizers, transportation and farm labour – as shown in figure 6.20. During the same period (2007-12) Pakistani potato prices also increased, mainly on account of the cost of fertilizers, irrigation and transportation, although the increases were less than those in Afghanistan.

Figure 6.26. Cost breakdown of one ton of Afghan fresh potatoes in the wholesale market in 2012 and 2007 (in USD)

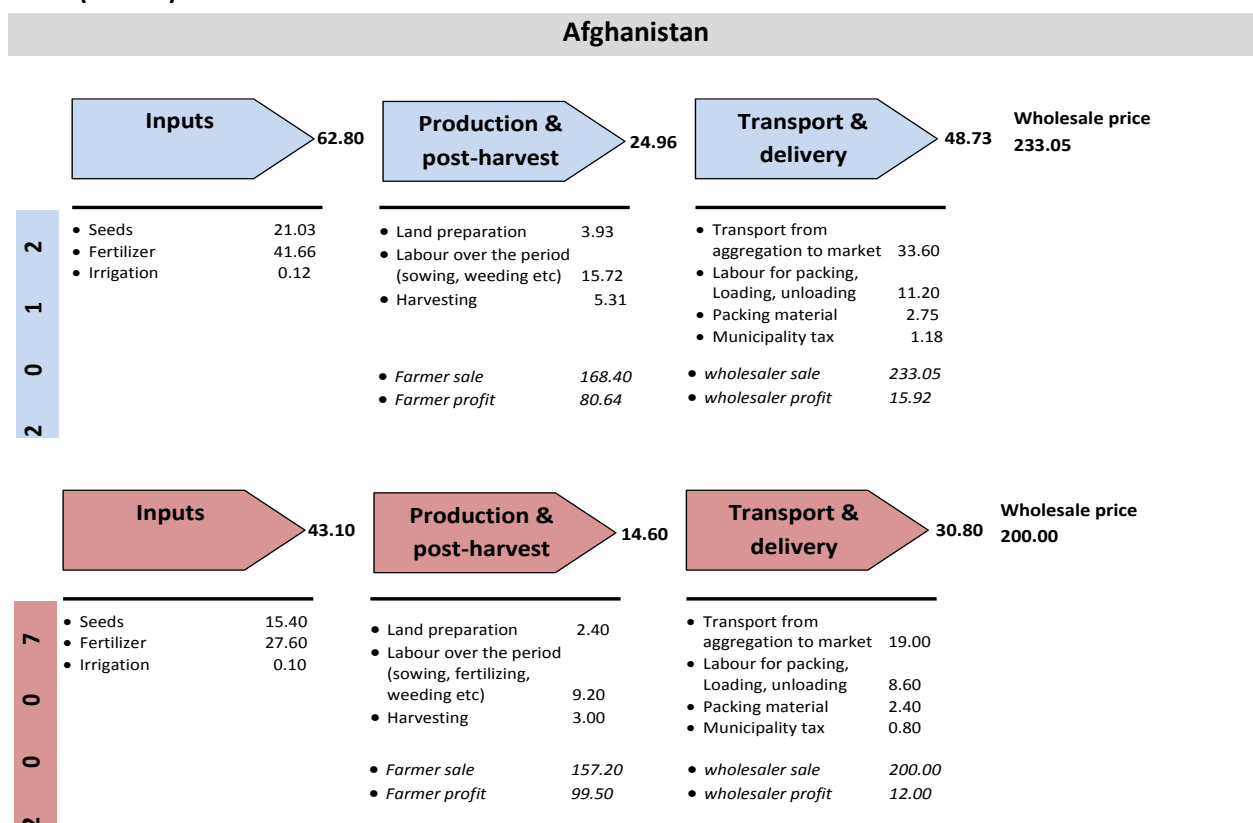


Table 6.18: Inputs cost as percentage of total production cost – Afghan potatoes

Year	Fertilizer %	Irrigation %	Labour %
2012	48	0.1	28
2007	48	0.1	25

Interestingly, the cost share of fertilizer in the overall production cost of potatoes in Afghanistan remained the same during the 2007-12 period. However, this stability did not profit the farmers whose profits fell although the wholesale price increased.

Figure 6.27. Cost breakdown of one ton of Pakistan fresh potatoes in the wholesale market in 2012 and 2007 (in USD) Pakistan (with subsidy on urea fertilizer in 2012)

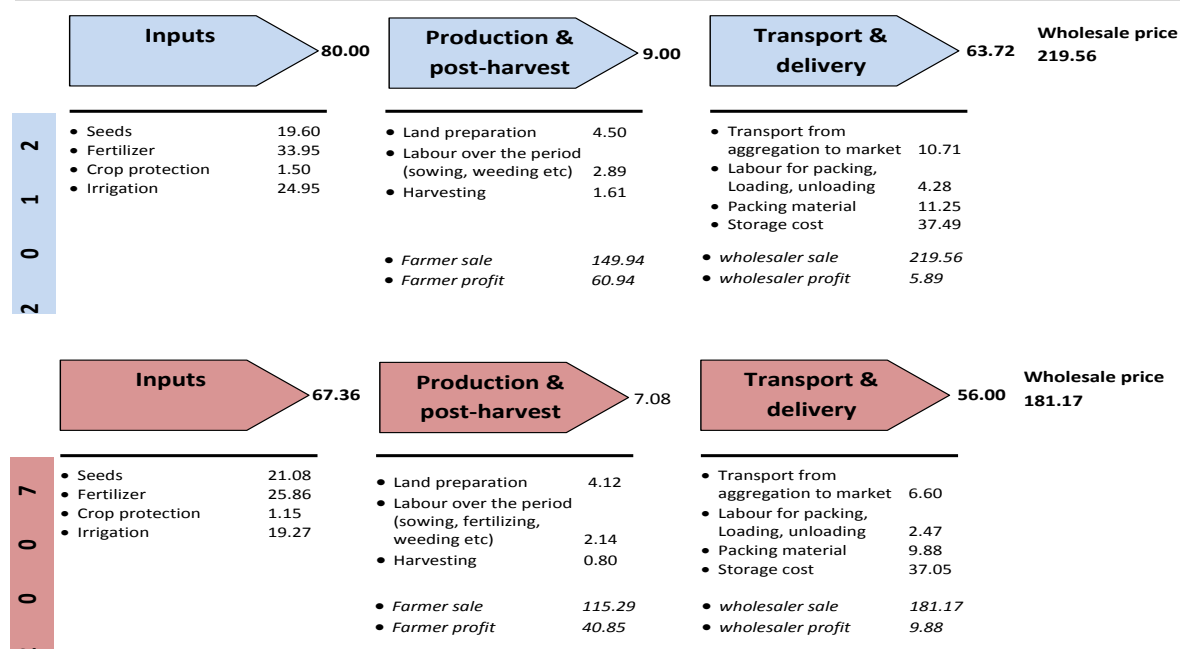
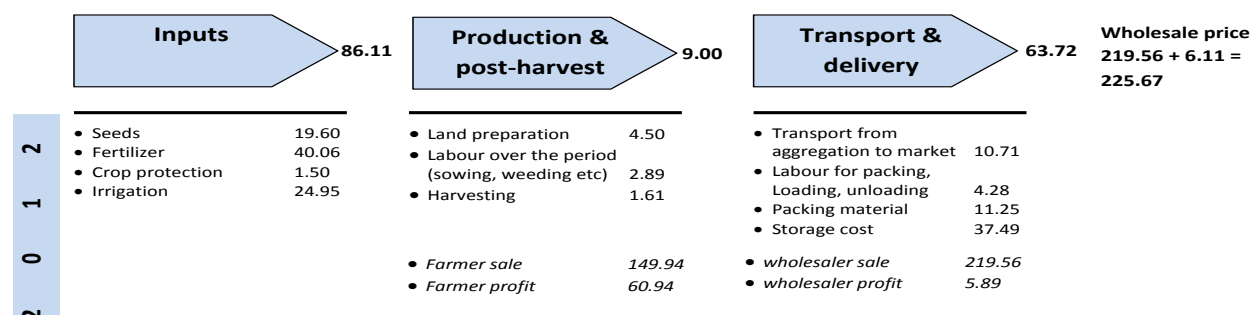


Table 6.19: Inputs cost as percentage of total production cost – Pakistan potatoes

Year	Fertilizer %	Irrigation %	Labour %
2012	38	28	10
2007	35	26	9

In contrast to Afghanistan, all Pakistan's cost components of production increased marginally.

Figure 6.28. Cost breakdown of one ton of Pakistan fresh potatoes in the wholesale market in 2012 (in USD) Pakistan (without subsidy on urea fertilizer – a hypothetical situation)



* The cost increase due to a hypothetical withdrawal of the subsidy is added to the final wholesale price, keeping the profit margins the same at farm level.

The hypothetical withdrawal of a subsidy on urea would slightly increase the price of Pakistani potatoes, but it would still be lower than that of Afghanistan and therefore competitive.

6.6.1.5 Support services market

Transacted services

The transacted services include brokering (commission agents), clearing and forwarding agents and machine troubleshooters.

Generic services

Like other agricultural commodities, packaging and finance are the major generic services.

Public benefit/free services

The Department of Agriculture, Irrigation and Livestock (DAIL) provides extension services. It also collaborates with development projects/NGOs to implement projects and provides a transacted service for tilling lands with tractors - renting out tractors to farmers and cooperatives on a fee basis (500 Afs per hour).

NGOs/development projects

A number of NGOs are extremely active in Bamyan, among which the Aga Khan Foundation. It has a programme, inter alia, which forms farmers' groups. If a farmer has one jerib of land, it provides him with high-quality potato seeds, one bag (50 kg) of Urea and one bag (50 kg) of DAP. It also trains the group members on how to grow high-quality potatoes. "Roots of Peace" is an NGO working intensively on the potato storage issue in Bamyan. It has built around 1,100 cold stores in three districts of Bamyan, namely Bamyan Centre, Yakawlang and Shiber – a project funded by the Government of Japan. Another NGO, Solidarity, has also been involved in constructing cold stores in Bamyan.

Embedded services

Like other agricultural commodities, input retailers are the sole embedded service (information and knowledge on inputs) providers.

6.6.1.6 Cross-cutting issues

Women were found to be involved only at the farming level throughout the whole value chain. In general, they help in tasks requiring less physical strength. The situation varies from region to region. While women were observed working on the land in Bamyan province, this was much less the case in Kabul. Child labour was not found in any steps of the value chain - except at the farm level. Children are highly involved in different activities during potato cultivation, ranging from land preparation to post-harvesting activities. As potatoes are planted in rows, they work on preparing these, cutting seed potatoes and sowing them. They also carry lunch from home to the farmland for family members and hired labourers. Similarly, they help in irrigation duties and in applying fertilizer and harvesting. After harvesting, they help pack the potatoes into bags.

6.6.1.7 Constraints and opportunities

When adopting the methodology of triangulation to survey the competitiveness situation in the subsector with relation to value chain dynamics, it is possible to identify a number of key constraints – some of which are interlinked.

Constraints

1. Eroded price competitiveness. Due to the unfavourable currency exchange rate, Afghan potatoes have lost further competitiveness against Pakistani and Iranian potatoes (figure 4.44). This has resulted in increased imports from both Pakistan and Iran, and decreasing exports to Pakistan (figures 4.46 and 4.48b).

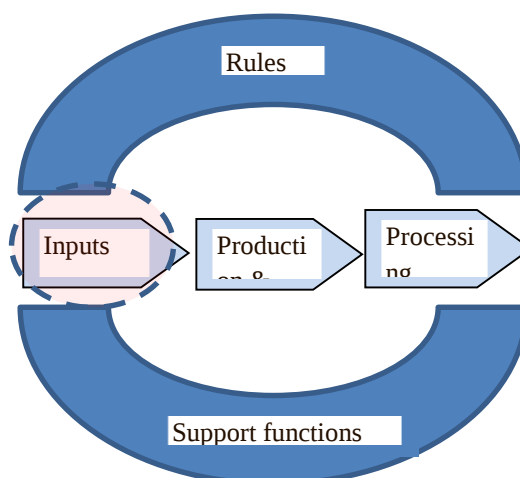
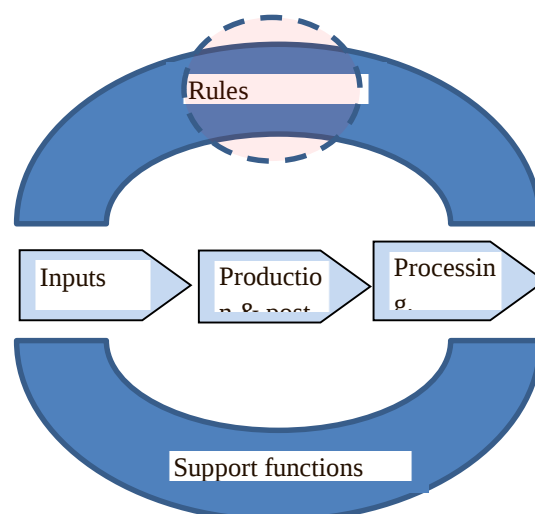
2. Unavailability of good quality seeds. Not only has the rise in the price of fertilizers forced many poor farmers to reduce their dosage, their use of low-quality seeds has worsened the yield situation. Afghanistan's potato yield is the lowest in all the three countries under review. Making good quality seeds available could increase the yield - and thereby farm income - even if other factors remain the same.

3. Lack of appropriate cold store facilities. In Bamyan, a significant number of cold stores have been built, but they are mainly an improved version of traditional storage methods. They have clear limitations. They do not have proper ventilation or a humidity control system. When potatoes are harvested in September in Bamyan, the weather is already cold and potatoes can be stored in those stores. By January, the inside chamber of the store starts to become very damp because of poor ventilation and the daytime temperature starts to rise. As a consequence, the stored potatoes start rotting or become sweeter - which is not appreciated by the consumers. The potato owners therefore start to evacuate the stores to sell their produce in the market, and keep only a small portion that can be used for seeds until March. Hence, from March until the next year's harvest, the stores remain empty. Furthermore, six to 20 per cent of the potatoes are rotten when brought out of the stores. In addition, storing and bringing out potatoes requires additional labour costs. And in Bamyan, road communications are disturbed due to the heavy snowfall in the winter. To make matters worse, fresh Pakistani potatoes arrive on the Afghan market in January and February (and people prefer fresh potatoes), so that the price of Afghan potatoes may not be high enough to offset the wastage and additional labour costs. Consequently, many farmers prefer to sell their potatoes just after the harvest.

4. Farmers' poor access to finance. While this refers to the farmers' poor access to financial products, it also refers to their poor knowledge of financial management, as mentioned in section 5.1.2. As a result of this, poor farmers have reduced their application of fertilizers, thus further compromising the yield.

6.6.1.8 Proposed interventions

1. **Facilitate policy review to check the economic viability of adjusting the production cost.** The increased price of fertilizers is the key major contributor to the rising price of potatoes in Afghanistan. To protect domestic potato production, a policy review to check the economic viability of offering subsidies for fertilizers for potato production might be considered, although this might not be feasible in the short term on account of the Government's limited fiscal .
2. **Improve seed quality to increase the yield of potatoes.** The potato yield in Afghanistan is the lowest among all three countries under review - and the yield growth trend is also negative. While the unfavourable currency exchange rate is making Afghan potatoes non-competitive, the negative yield has accentuated this. One of the key factors contributing to this poor yield is the use of low-quality seed. Efforts should thus be made to promote good quality seeds and to educate farmers on their use. This could lead to a good job creation scenario - although overcoming the lost price competitiveness will be a tremendous challenge.



6.6.1.9 Job implications⁸¹

Table 6.20: Job creation potential in the potato VC through a higher yield by way of better quality seeds and access to finance

<i>Elements of jobs creation potential</i>	<i>Estimate (new working days)</i>
22,000 FHH use better quality seeds and an appropriate amount of inputs, resulting in at least 20 per cent increase in production i.e., an additional 23,500 tons (at least)	

⁸¹ Note that the following calculation was done on the basis of the initial assumption informed by the original field interviews where the total number of farm households producing potato was estimated to be around 22000. While the latest estimate on the basis of ALCS 2013-14 data is 195,000 farm households, which is 8.86 times higher than the original estimate used by the team, the following calculation is kept unchanged as a conservative estimate.

- Increased labour during harvesting	156,000 working days
- Increased labour during post-harvesting rural aggregation level (packing, loading, unloading)	47,000 working days
- At wholesale level	23,500 working days
- At export level	156,000 working days

By enabling farmers to access better quality potato seeds and have an improved knowledge of financial management (including access to finance), around 382,000 new working days could thus be created.

6.6.2 Overall impact of subsidy withdrawal

It may therefore be observed that if the subsidy is completely withdrawn in Pakistan, it will not greatly affect their current competitive sectors such as wheat, rice and potatoes. As far as grapes and tomatoes are concerned, Pakistan is already non-price competitive against Afghanistan. This situation will only continue to erode marginally if subsidies are withdrawn.

6.6.3 Pakistan

Pakistan produces an exportable surplus of potatoes, meeting the domestic demand, and the end market thus leads to both the local and export market. However, due to seasonal and price factors, Pakistan also imports potatoes from Afghanistan and Iran - although in both cases these imports are erratic. Afghanistan remains an important market for Pakistani potatoes and it has increased considerably in the last decade. The significant increase of Pakistan's exports to Afghanistan may partially be attributed to the increased exports (re-exports) from Afghanistan to Tajikistan and Uzbekistan. Pakistan is emerging as a consistent exporter of potatoes in the region owing to its increasing surplus annual production.

There are a number of channels in the potato value chain in Pakistan. The fresh potato channel deals with potatoes that are not stored. The second channel includes the potatoes that are stored in cold storage facilities and gradually arrive on the market when the fresh supply declines. The third channel is the potato export channel, which emerges from both the first and second channels. The fourth channel includes processed potatoes - mainly French-fried potatoes and potato crisps/chips. This channel consumes much less compared to the other three channels.

Potatoes in Pakistan have emerged as a cash crop and commercial farmers contribute to the bulk of the country's annual production. The semi-commercial and subsistence farmers follow in decreasing order. Various imported varieties of potatoes are grown in Pakistan. There are two crops grown in Pakistan i.e., the spring season and kharif crops. The spring crop is sown in February and harvested in June/July, while the kharif crop is sown in August/September and harvested in December. The latter accounts for the country's major production. The spring crop was traditionally a seed potato crop, but it has become increasingly uncompetitive in the face of imported seed.

Potatoes are usually harvested with tractors and manually collected by workers before they are packed into jute bags. After harvesting, most semi-commercial farmers sell the produce to visiting traders/contractors. Contrary to this, most commercial farmers shift their produce to storage and sell it gradually in the market to traders.

Of the total production, 50 per cent fulfills domestic requirements and hence a significant surplus is available for export. Pakistan's current export destinations for potatoes include Afghanistan, Malaysia, Singapore, Iran, Sri Lanka, the Russian Federation and the Gulf States. Most of the potato exporters to Afghanistan are based at Peshawar, while exporters have their operations in Lahore and Karachi for other destinations. Importers in Kabul increasingly source their products directly from traders in the wholesale markets and production areas.

There are several manufacturing brands in Pakistan that use potatoes as a raw material. The most widely processed form is potato crisps. Most processing units source their supplies through contract growing in view of their quality requirements and product specifications. The increasingly important user of potatoes is the fast-food industry. These businesses, however, mostly source their produce from the wholesale markets, with the exception of few international chains that apply strict quality specifications and therefore import the bulk of their potato requirements. Important chains that use potatoes include McDonalds, KFC, Pizzeria Uno, Pizza Hut, One Potato Two Potato, Mr. Cod, etc. Potatoes are also used in the production of snacks, which are becoming popular. The major potato snacks and crisp brands include Lays, Golden Chips, Super Crisp, Smiths, Kolson and Krinkles. Imported brands are also available in Pakistan, which compete with local brands.

Pakistan has a cold storage infrastructure that caters to the needs of the agricultural sector. There are more than 555 reported cold storage units in Pakistan, with an estimated storage capacity of 0.9 million tons. Over 90 per cent of these are located in the Punjab.

The potato value chain provides opportunities for women workers, especially in the harvesting and picking of potatoes. Women are also involved in potato pack houses, especially in washing, sorting and grading. Children help family members in certain potato farming operations.

The value chain faces a number of constraints with regard to growth. The potato seed used in Pakistan is predominantly (>95 per cent) imported. This makes the value chain vulnerable, as it has to depend on imported seed. It is also a significant cost component, which may be reduced if a local seed industry is established. This will, however, need to be based on international standards and linked with the export of seed to other countries, including Afghanistan and Iran.

There are a large number of potato-processing companies (national and international) that procure potatoes from the local market. These companies require table potatoes of a specific quality and variety. Very often, they struggle to procure a product commensurate with their requirements. Promoting

contract farming to enable these processors to procure the right types of potatoes could be a win-win solution for both processors and farmers.

6.6.4 Islamic Republic of Iran

Although Iran is a large producer of potatoes, its potato production is inadequate to fulfil local consumption demands, and it therefore imports potatoes every year to a varying extent. In good harvest years, it also exports to neighbouring countries, but the pattern is erratic. However, thanks to its improving price competitiveness due to the favourable exchange rate change, there is a clear increase in Iranian exports to other neighbouring countries. Iran actually exports a significant volume of potatoes in their processed form – potato crisps - to neighbouring countries, including Afghanistan. The overall production of potatoes in Iran increased during the past decade - mainly because of the strong attribution by yield, as the land under cultivation decreased slightly.

Three distinct channels may be observed in the potato value chain in Iran. The first is the local consumption market, which is mainly market-based. The second channel is the fresh tomato export channel, which shows a modular type power structure. The processed tomato channel exhibits a relational power structure, whereby the processing companies supervise and guide the farmers under contract to produce the right quality potatoes.

Women are actively involved during the plantation and harvesting stages of potato cultivation. They are also involved in weeding, sorting and knitting gunnies for storing potatoes. In particular, Kurdish women are hired for the harvest – and they come with their entire families to work on the farms. Women are also engaged in potato processing in tasks such as packaging. Children help their families throughout the whole cultivation period.

Chapter

7

Chapter summary: The study found that, with the exception of the grapes/raisins sector, which continues to grow at a high price, the selected agricultural sectors in Afghanistan suffered from a loss of price competitiveness vis-à-vis those of Pakistan and/or Iran. The eroding price competitiveness of the agricultural value chains under review is reflected in the declining profits of both farmers and processors, and the job prospects are bleak. There is a need to address a number of broad policy and strategic issues to deal with the structural constraints of a high-cost landlocked country with an adversarial currency and trade situation without sufficient timely data. There are also measures that operational programmes could address at the value chain level in the short term.

7. CONCLUSIONS AND RECOMMENDATIONS

The study has collected a broad range of primary and secondary data in Afghanistan (in the latter, there are enormous data gaps) in order to illustrate trends in competitiveness of the selected agricultural value chains across the countries under consideration. Much of the data presented in the earlier chapters were somewhat compartmentalized and not necessarily interpreted as the inter-connected parts of the whole picture – although they are of considerable interest in themselves. The aim of this section is to recap the broad range of key findings and make a logical interpretation of the findings most useful for the consideration of policy-makers.

7.1. Recap of factual findings

Agriculture provides 44 per cent of employment (2.9 million) in Afghanistan although characterized by underemployment and unpaid family work, the latter being the prime mode of employment for the majority of young people (14-19 years). The five agriculture value chains studied are an important sources of employment although the value chain-related work constitutes only part of their work, either as farmers, input suppliers or traders.

- Wheat is the most widely cultivated crop in Afghanistan, supporting food security and farm income of nearly 47 per cent of the total households (1.8 million farm households). The wheat value chain as a whole is estimated to employ 8.9 million people. Wheat provides the lowest income per unit of land among the five crops (USD 148 per jerib in 2012), though.
- Rice is the sixth most important crop in Afghanistan in terms of production volume and typically harvested in the winter season in the irrigated land. The proportion of households growing rice is limited to 3 per cent of households (approximately 98,000 farm households), but the whole value chain provides jobs to 502,000 individuals. The income per unit of land for rice is the second lowest among the five crops studied (USD 307 per jerib).
- Tomato is tenth most important crop in Afghanistan in terms of production volume. It is estimated that 214,000 are employed in the tomato value chain including 38,000 farm households growing tomato. Tomato commands the highest income per unit of land (USD 800 per jerib) along with grape.

- Potato is the fourth largest product in Afghanistan after wheat, maize/sorghum and fodder in terms of production volume. The sector provides employment to an estimated 1 million individuals across the value chain including 195,000 farm households. Potato's income per unit of land is in the middle among the five crops (USD 406 per jerib).
- Grape is the most popular crop grown on garden plots in Afghanistan. The sector maintains an estimated 1.3 million employment across the value chain including 173,000 farm households. Grape commands the highest income per unit of land (USD 806 per jerib) along with tomato.

The study found that the selected agricultural sectors in Afghanistan suffered from a loss of price competitiveness vis-à-vis those of Pakistan and/or Iran during the 2007-12 period. The only exception is the raisins sector, which seems indicating the initial success of niche strategy despite commanding a much higher price than the products from the other two countries.

- **Afghan wheat losing price competitiveness further.** Afghan wheat was the most expensive among the three countries in 2007 and the price gap widened further by 2012, when Pakistani wheat took over the price leader position from Iran. The wheat flour sector demonstrated a similar pattern, except that Pakistan remained the price leader throughout the period. Both wheat and wheat flour exports from Pakistan to Afghanistan are on the increase, most of its exports come in the form of flour. Afghanistan is also increasing imports from Kazakhstan. Afghanistan is surrounded by the top global wheat flour exporters such as Turkey, Kazakhstan and Pakistan that grow fast with their lower than global average price. This may provide opportunities to achieve food security through establishing a balanced import portfolio and a reasonable grain reserve rather than promoting costly domestic production.
- **Afghan rice is being challenged as the price of Pakistani rice declined to reach price parity with Afghan rice.** In 2007, Afghan rice was the most price-competitive among the three countries, but it reached parity with Pakistani rice in 2012 - while the price of Iranian rice has been rapidly declining throughout the period under review. Pakistan as a low price exporter of rice has been strong in its neighbouring markets. The impact of the parity in price between Afghanistan and Pakistan on the rice imports of Afghanistan is yet to be seen, but it is going to be tougher for Afghanistan to compete against the global exporter without price advantage.

Afghan tomatoes and tomato paste are being challenged as the price of Iranian products declined to reach price parity with Afghan products. In 2007, Afghan fresh tomatoes were the most price-competitive among the three countries, but they reached parity with Iranian tomatoes in 2012. Tomato paste followed the same pattern. As yet, Afghan tomato paste has been unable to compete well in terms of quality. The Iranian exports of tomato and its derived products to Afghanistan shows a growth overall. Turkey and Iran are among the group of emerging economies that grow faster than the present market leaders of fresh/chilled tomato exports. Turkey and Iran are also one of the major exporters of tomato paste and dominate the regional market. Under the present market situation, room for further import substitution of tomato paste remains small. With limited opportunities to expand value chain linkage to tomato processing, the future of Afghan tomato farmers will be bleak.

Afghan potato losing price competitiveness further. In 2007, Afghan potatoes were second in terms of price competitiveness after Pakistan, despite the fact that they have a different seasonality and crop variations. However, the price for Afghan potatoes kept rising, during the

2007-12 period, while the rapid price decline for Iranian potatoes made Iran a clear price leader by 2012, competing against Afghan potato exports in the Pakistan market. There are many countries in the region which are strong in the global export market such as Pakistan, Turkey, China, India and Iran, many of which with high growth rates fueled by their lower price than that of global average. Afghan potato exports grew fast as well, but its export volume was far smaller than other exporters. With the price moving towards higher end among the regional competitors, the future of Afghan potato sector becomes bleak.

- **Afghan grapes' price competitiveness challenged while its raisin never price competitive but competing by quality.** Afghan grapes' low price were caught up by the Iranian grape while Pakistan kept losing its price competitiveness. Afghan raisins were more expensive than those of Iran and Pakistan, and the price gap widened further. In the highly competitive regional market, Afghan grapes' growth potential would be limited unless it establish a cold chain. The regional raisins market is even more competitive, but Afghanistan would be better off by focusing on the high end market and avoid a price war with other lower priced neighbours. Several raisins exporters have been successful in penetrating the high end European market and growing well while others exporting to price sensitive markets such as Russia suffered from increasing competition from the low price exporters such as Iran. Pulled by the demand for raisins, Afghan farmers have expanded the production of grapes. With proper strategies, it could be expected that an additional 20,000 or so full-time equivalent jobs could be generated in the sector.

The eroding price competitiveness of the agricultural value chains under review is reflected in the declining profits of both farmers and processors, and the job prospects are bleak-. This has undoubtedly had a negative impact on commercial farm households where the main source of income is agriculture. The impact on semi-commercial farmers and subsistence farmers has probably been less, given that they rely more on non-farm income, but it has possibly contributed towards accelerating massive labour migration and simultaneously fuelled the deteriorating security situation.

This eroding competitiveness might not have been obvious to policy-makers and the general public because: a) Afghan agricultural products often remained price-competitive in the domestic market even if the wholesale price in each country reached parity (e.g., rice and tomatoes) due to the additional costs added to imported products; b) the harvesting cycle is different across the countries (e.g., fresh tomatoes and potatoes), avoiding direct competition; c) policy-makers were not able to monitor shifting competitiveness and its employment impact properly due to incomplete statistical system (e.g., the lack of the consolidated national trade data from the more reliable ASYCUDA system without which the Afghan trade data remain unreliable, and the lack of regular and timely several years-cycle of reporting of the labour market information from the NRVA/ALCS); and d) scarce attention had been paid to the competitiveness-jobs nexus by the international community and the previous administration, which tended to focus on other imminent challenges and priorities.

The Afghan agricultural sector in general suffers from a higher cost of production than that of Pakistan, and this gap has been widening - while Iran's agro products have become increasingly price-competitive despite the high factor costs of production. Fertilizers and farm labour accounted for the two key cost elements that resulted in the eroded price competitiveness of Afghanistan's products in four out of the five value chains.

- Even in 2007, the Afghan farm-wage rate was higher than that of Pakistan, and this difference increased further by 2012. The Afghan farm wage rate increased from USD 4.00 per day in 2007

to USD 6.87 per day in 2012, while the Pakistan wage rate was USD 3.05 per day in 2007 and USD 3.32 per day in 2012 (See section 3.5.3).

- The key production factors placed Afghanistan in an even more disadvantageous situation vis-à-vis Pakistan, while the situation in Iran is the worst. During the 2007-12 period, energy prices increased by 96, 43 and 120 per cent, fertilizer prices by 96, 35 and 160 per cent in Afghanistan, Pakistan and Iran, respectively (See section 3.5). These are the costs that are difficult to reduce for a land-locked Afghanistan, which imports fertilizers and electricity.
- The growing price of key production factors puts pressure to the profitability of farmers, processors and exporters. Farmers of fresh grapes and potatoes have seen a reduction of profitability between 2007 and 2012.
- Irrigation costs had little effect on the erosion of Afghanistan's competitiveness, as they only account for a limited amount of total production costs in all sectors under review, with the exception of horticultural crops such as grapes and tomatoes. Expanded irrigation facilities could increase overall production by enabling more areas to be cultivated, but they are not likely to increase cost competitiveness per se (See sections 5.3.1.4, 5.4.1.6, 5.5.1.4, 5.6.1.4 and 5.7.1.4).

The drastic and continuous depreciation of the currencies of Pakistan and Iran correlates with the widening trade gap between Afghanistan and these countries, including in the area of key agricultural products. On the other hand, the subsidies of Pakistan and Iran do not seem to have decisive impacts on the relative competitiveness of the value chains studied.

- The Pakistani currency depreciated by 75 points against the US dollar during the 2003-14 period, and the Iranian currency by 218 points - while the Afghan currency only depreciated by 18 points. If a similar situation had occurred among OECD countries, it would have triggered a huge international debate to discourage further deterioration of the cross-currency situation, and some may resort to emergency safeguard measures to prevent domestic industries from destructive impacts.
- The drastic currency depreciation was accompanied by a high rate of inflation and a steep rise in the consumer price index in both Iran and Pakistan. Nonetheless, this did not impact on the export price of their agricultural products to Afghanistan, as observed across the five value chains under review.
- During the 2002-12 period, Afghanistan's imports increased four-fold, while its exports remained sluggish and even slightly decreased. In the same period, Pakistan's imports increased more than three-fold while its exports doubled, but its exports to Afghanistan skyrocketed from US\$ 408 million in 2003 to US\$ 1,998 in 2013. However, its imports from Afghanistan accounted for less than one sixth of export value. Over the past few years, imports of competing agro products from Pakistan have increased exponentially. Iran's trade pattern with Afghanistan has followed a similar path. Carpets and other textile floor coverings have experienced an explosive growth in exports to Afghanistan – but this did not concern competing agricultural products.
- Afghanistan's low position in the World Bank's "Doing Business" ranking may have had some negative impacts concerning investments for the modernization of the agro inputs, processing and export companies - although the deteriorating security and uncertainty at the onset of the "Transformation Decade" are the usual suspects for the explanation of under-investment in Afghanistan in general.
- The subsidy on fertilizers in Pakistan has only a marginal impact in gaining further competitiveness for all the Pakistani VCs studied. Withdrawing this subsidy would not greatly

affect the relative competitiveness scenario between Afghanistan and Pakistan, as seen in the cost diagrams with and without subsidies in Chapter 6.

- Similarly, the subsidy on electricity in Pakistan (which affects the cost of irrigation by motor) also does not affect the competitiveness situation. This applies only in Baluchistan, where grapes are the only product widely cultivated in the province among the VCs studied. Removing the electricity subsidy would deteriorate the situation of the Pakistani grape producers in Baluchistan, but Pakistani grapes/raisins are not price-competitive even with the present subsidy.
- The subsidy on electricity and fertilizers in Iran does not affect much the competitiveness situation vis-à-vis Afghanistan and Pakistan with respect to the five VCs. Iran has gained price competitiveness only in potatoes and tomatoes; only in the sector of tomato paste has it grown to be the major exporter to Afghanistan and Pakistan. Further, due to the Targeted Subsidy Reform Act of 2010, the future of the subsidy is on the decline.

7.2. Interpretation of factual findings and coping strategies

The recent erosion of competitiveness of Afghan agriculture sector appears to be a general situation of Afghan economy which may be described as a type of “Dutch disease” – usually defined as hollowing of domestic industries due to currency appreciation caused by oil boom – but in this case, the causal chain is quite different. Afghan currency has been stable and the resource boom has not even started. Instead, it was the currency of the neighbouring trade partners which experienced longitudinal and drastic depreciation (Chapter 3, section 3.3.3). Against this background, domestic industries in Afghanistan in general have been losing out, and the cavitation phenomenon appears to be reaching to agriculture, the very sector that Afghanistan is supposed to have its comparative advantage. The data concerning agriculture trade with the major regional trading partners, although imperfect, indicate skyrocketing imports, including those products in which Afghanistan is supposed to have a comparative advantage while the agricultural exports stagnate (Chapter 3, section 3.3.2).

When the competitiveness is eroded across the board due mainly to the relative situation of currencies between competing trade partners, business as usual would not work. That is, the standard set of technical assistance and promotional measures leading to incremental improvements of productivity in each sector could hardly overcome the overall disadvantage of the higher cost economy. When the sectoral competitiveness is lost, the production is replaced by imports, and the highly liberalized trade regime of Afghanistan (see Table 3.4) combined with the strengthening of the regional transport network and trade facilitation will help accelerate imports growth rather than promote export-led growth.

The growth strategy as a transportation hub would usually require lower cost labour than its neighbours in order to allow shifting of the most labour intensive parts of the supply chain from the economically more advanced neighbours. This is how the late comers of the greater Mekong region succeeded to grow including the landlocked economy such as Lao PDR. To the contrary, Afghanistan today has higher cost labour than Pakistan.

The alternative growth strategy for a landlocked country is the resource-based growth. However, it would not provide sufficient opportunity for a job-rich growth, and chance of success with the resource-based growth is substantially decreased under the current global outlook with the end of the

commodity super-cycle. The most successful resource-based developing economies are suffering from the bust of the boom since 2015.

Under the circumstances, there are four broad strategic directions that Afghanistan should consider: A) efforts to reverse the cost disadvantage; B) pursue niche strategy to compete by quality; and C) making policy responses faster when a certain sector is losing competitiveness relative to its trade partners. The next section will discuss concrete measures related to these strategic directions.

7.3. Recommendations

7.3.1. Policy and strategic measures

The findings of the study indicate the need to address a number of broad policy and strategic issues to deal with the structural constraints of a high-cost landlocked country with an adversarial currency and trade situation without sufficient data – before discussing sub-sectoral development measures. It should be noted that the Recommendations listed here do not include the basic measures already being taken, such as improvements to the transport network and customs operations. Neither do they touch on negotiations on trade and transit agreements. The intention here is to provide a fresh look at missing links for policy coherence.

- **Address the production factor costs across the board.** The ongoing reform initiative of the Government to improve the business environment and investment climate, as well as to address private sector-led growth and job creation, must be accompanied by serious efforts to bring the production factor costs down across the board in order to be able to compete effectively with the regional trade partners and secure a better position in the global supply chains. Only in this way could there be a job-rich economic restart. However, this is the most challenging policy area. There are things that Afghanistan cannot influence such as the exchange rate of neighbouring countries. Wage cannot be adjusted downwards unless the exchange rate correction would bring its relative value down vis-à-vis its trade partners. Room for subsidies for electricity and fertilizer will be slim under the present fiscal constraints. Promoting investments in measures to reduce the electricity cost is one of the policies that the Government would want to explore.
- **Consider emergency safeguard measures if appropriate.** In the short term, the Government could consider taking advantage of the emergency safeguard measures when the agricultural subsectors that were previously exporting suddenly face an influx of imports; this could be combined with a strengthening of border controls. Among the five sectors studied, we may have to watch the situation of the Afghan potato sector where the price of Afghan potato became the highest among the three countries. This is a challenging issue given the porous border controls, but it is nonetheless worth considering prior to accession to the World Trade Organization (WTO). These measures may include imposing higher import duties, an import quota system, a seasonal quota system, as well as other non-tariff trade barriers. An inefficient customs system and loose border controls can act counter-productively, when attempting to control or restrict imports. Immediate steps to strengthen the border control system could include: cross-border trade verification; a strict control over the presentation and verification of goods in customs facilities by introducing technology (scanner, bar-code, x-ray, etc.); strong monitoring of customs officials and brokers involved in data entry.

- **Consider readjustments of the import tariffs of agriculture crops and products.** The highly liberalized Afghan trade regime puts the large number of agriculture jobs in danger when the relative competitiveness vis-à-vis neighbouring trade partners is lost. In light of the higher tariff of the trade partners, Afghanistan would benefit from some readjustments of import tariffs of selected agriculture crops and products.
- **Be selective on the priority sectors and turnaround strategies.** Being aware of the complexities in dealing with the adversarial currency and trade situation, Afghanistan must accept the current cost disadvantages for the time being and build strategies to deal with them. It must become highly selective on priority sectors and avoid spending scarce resources in the sectors that would not bring growth nor jobs. It must become even more selective on the turnaround strategies of key sectors. As the job prospects of the value chains under review indicate, development measures of “business as usual” would generate little employment – and possibly even job losses - in those subsectors in which price competitiveness has been eroded and there is a lack of non-price strategies. Where winning patterns are clear - such as in the case of the grapes/raisins sector - development strategies provide a significant potential for job creation. There are some promising turnaround strategies that could help regain cost competitiveness as seen in the next section.
- **Address the data gap and coordinate policies across the board.** In order to support the above policies and strategies, policymakers need to respond to the shifting competitiveness of key value chains fast, but the present statistical system does not allow them to be informed of the shifts fast enough. There is an urgent need to address the data gap on competitiveness and jobs. The future of the adversarial currency and trade situation may be fluid. The Government of Afghanistan should therefore start monitoring the relative competitiveness of its strategic sectors and its impact on jobs more closely. The critical data required for collecting and monitoring in short cycles would include: a) the consolidated trade data based on the Automated System for Customs Data (ASYCUDA) software at the customs offices across the country; b) data on production factors; c) data on key agro produces and deliverables; and d) labour market indicators (LMIs). The LMIs require special attention since they are currently made available through NRVA/ALCS surveys of the Central Statistical Organization (CSO) in two-three year intervals and reported a year after the survey. These need to be collected and reported much more frequently in order to serve as key monitoring indicators for economic and employment policies. Once the data gap is addressed, the strategic discussion and policy coordination must take place within an inter-ministerial body entrusted with monitoring the key indicators of competitiveness and jobs such as the development councils introduced in September 2015.
- **Differentiate measures to support commercial farmers from those of subsistence or semi-commercial agricultural farmers.** In order to compete better with its price-competitive and more industrialized neighbours, Afghanistan needs to increase its number of commercial farmers. They must demonstrate viable business models that do not require the hand-holding support of the Government, donors or NGOs, but replicate successful patterns through a market mechanism. However, subsistence and semi-commercial farmers would not be able to benefit much from the agriculture sector development since they rely more on income from non-agricultural sources. The declining size of agriculture land per family exacerbate the situation. They require more labour-market-based supplementary measures – for example those linked to skills, entrepreneurship and social protection programmes, often referred to as active labour market policies (ALMPs) that facilitate shift of labour from declining sectors to growing sectors. Support to a well-managed labour migration regime such as the bilateral labour agreements combined with the proper

regulation of private recruitment agencies should form an integral part of the policy mix, given the significance of job search as a major motive for emigration.

7.3.2. Value chain development measures under the given circumstances

Having said the above, there are measures that operational programmes could address at the value chain level in the short term. As previously mentioned, it might be expected, with proper strategies, that the raisins sector could generate approximately 20,000 full-time equivalent jobs in the sector.

Nonetheless, both short-term and long-term strategies should be addressed in parallel, if the short-term measures are intended to be the foundation of long-term competitiveness and decent job creation. The promising value chain development interventions are limited because of the adversarial external environment - and because strategies are limited when the country remains a high cost economy vis-à-vis its competing trade partners.

It is important to re-emphasize here that business as usual would not be sufficient unless it has as significant impact as reversing the price disadvantages. Typical interventions such as follows merit attention.

- Agriculture credits and micro credits: Agriculture credits help grow commercial farmers in the sectors where profits are high and growth prospects are positive. When the sector is challenged by low cost competitors and profit is shrinking, however, the credits usually do not help reverse the situation. For the indebted small farmers, adding agriculture credit programme could be counter-productive. The interest rates of micro credit programmes are usually too high for agriculture commodity production, and better suited for higher profit, higher rotation trading and retail.
- Seed improvement programmes: In a highly competitive markets, seed improvement programmes become relevant only when the significant increase in yield would lead to the reversal of cost disadvantage. If that is the case, the role of the Government and the donors would be to facilitate the better functioning of the private channels.
- Cool/cold storages: When the price becomes more expensive than major exporters such as the case of Afghan potato vis-à-vis those of Iran and Pakistan, we need to question whether the logic of storing crops for a few months to avoid selling during the low priced season would remain valid. The popular belief of Pakistan re-exporting Afghan potato stored in Pakistan was not found the case as the volume of Afghanistan's potato export to Pakistan was marginal compared to the reverse flow.
- Public investments in processing factories: Public investment tends to be less mindful of competitiveness and profitability than private investments, and often ends up subsidizing non-competitive firms or sectors. It is important to let the private sector investment decision to prevail by facilitating enabling investment climate.

The following Recommendations are crafted on the basis of the latest thinking of private sector development (PSD) facilitation shared among the lead technical agencies of PSD around the world. These must be viewed as strategic guidance rather than being prescriptive – indeed, the prevalence of “cookie-cutter” prescriptive solutions supported by external assistance in Afghanistan have kept failing and have generated wide-spread skepticism among the national stakeholders from the central

government to provincial entities. The importance of making right strategic choices cannot be overemphasized.

- **Replicate the success of market penetration by addressing value chain pressure points.**
 This is the most popular value chain development strategy. An example is the provision of fast customs and quarantine processes at the airports and borders for perishable items such as fresh grapes. Establishing cold chains could also be included here, although this requires significant financial resources. There are a few isolated cold storages in selected provinces, most notably for the storage of potatoes in Bamyan, but their impact is not very clear as yet. Yet another possible scenario would be to move from a low value-added to a high value-added market, as in the case of raisins exports. Exporters to traditional markets such as the Russian Federation, who are struggling against the influx of increasingly price-competitive Iranian raisins, could aim at switching to the European market. The support required may be to address the certification and compliance of exports to the high end market, through the introduction of standard certification agencies/firms, and to back interested second-tier exporters to enable them to comply with certification requirements. Assisting participation at international trade fairs and developing effective marketing tools could also be considered. There has been cases of private sector-led exports via air from Afghanistan to countries such as Dubai and India. The value chain pressure points to facilitate this type of activities would be streamlining the airport customs and phytosanitary procedures to minimize the time for exports and at the same time minimize the loss of perishables.
- **Let the lead firms grow with decent work without exploiting the power imbalance.**
 The case of a few raisins exporters who have successfully penetrated into the European market is the most encouraging finding of this study. These lead exporters will grow by themselves, and the business environment should be made easier for all businesses, thereby enabling successful enterprises to operate effectively. The greater challenge in this scenario is to ensure compliance to international social and environmental standards in the end market. For instance, the exporters should become socially responsible and be prevented from becoming exploitative entities due to the growing inequality of power vis-à-vis the farmers. Policy-makers could benefit from successful experiences in responsible global supply chains, including more linkages with the relevant entities of the destination countries and the international bodies promoting such initiatives.
- **Replicate the proven productivity gains through market facilitation.**
 The type of support made increasingly popular through the Making Market Work for the Poor (M4P) approach is to replicate the success through market facilitation. Instead of subsidizing each and every runner-up firm to become successful exporters, demonstrating and disseminating the successful cases would lead to the automatic replication of the business models and tips with a “light touch” assistance. The study has identified that the proven productivity measures have not been well introduced in Afghanistan and therefore the replication of successful productivity measures could bring about improvements. Once the effectiveness is demonstrated, however, the farmers often do it at their own cost. Good examples include greenhouses, small water reservoirs for farmers, and solar panels for small businesses. Promising models include trellising and improved seeds that could double the production without necessarily increasing production costs in proportion. One district in Northern Afghanistan replicated trellising with locally available materials without external assistance. Developing commercial trellis system installers would be a slightly more expensive alternative, but they could act as brokers to identify interested farmers and help them access initial funding from financial institutions. The study also found that farmers buying privately imported seeds are enjoying good yields, contrary to those operating under the

government-run programmes, known to be tainted by corruption. Another promising approach would be to tap existing commercial seed processors/suppliers/importers and further develop their capacity.

- **Promote productivity with occupational safety and health (OSH).**

Better workplace contributes to branding Afghan exports in the high end markets where the compliance to the labour and environmental standards are increasingly demanded such as the case of the European market. Global experience tells that productivity gains can be achieved alongside improvements in working conditions and OSH, thereby contributing to easing fiscal pressure on the social protection floor when private firms pursue these as a business strategy - in combination with the responsible trade and supply chain initiatives from the importing countries. This strategy would be particularly relevant in relation to the hazards in crate-making factories and the processing of raisins, where workers handle chemicals with their bare hands.

